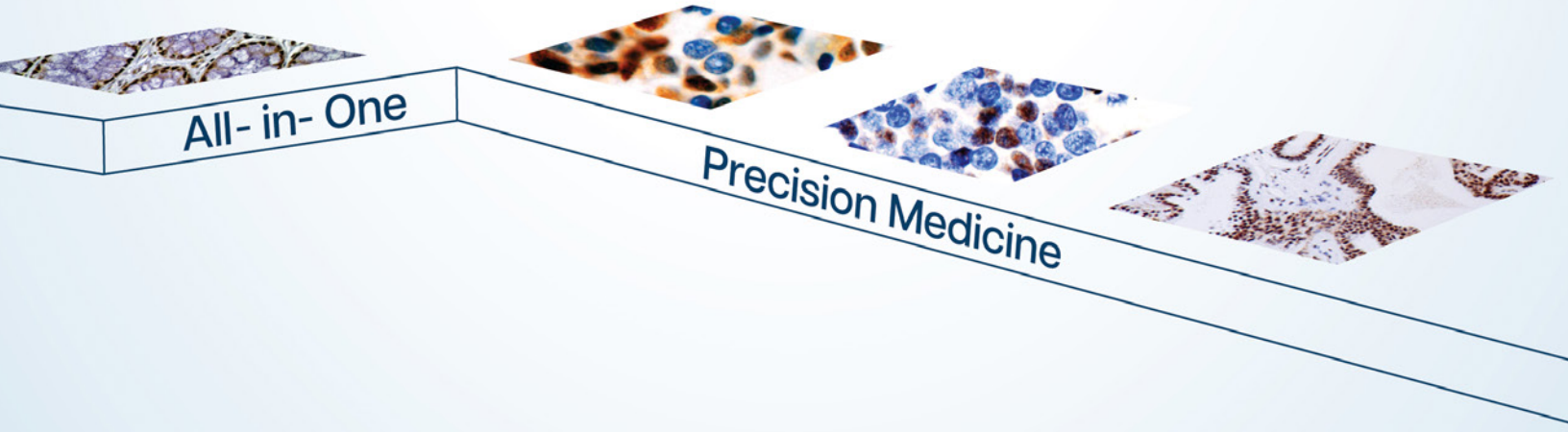
New miRNA Probes

miRNA Product Catalog

(international)

Precision Medicine Research

- Cancer of Unknown Primary (CUP)
- Poorly Differentiated Tumors
- Undifferentiated Tumors
- Grading and Staging of Cancer



BioGenex

Accelerating the pace of precision Oncology

Dear Customer,

We are pleased to present the BioGenex Molecular Pathology Catalog. As a vertically integrated company, we develop, manufacture and market highly innovative and fully automated systems for tumor diagnosis, prognosis and therapy selection.

Xmatrx® systems redefine complete automation for the molecular pathology laboratory and standardize the protocol from baking through final cover-slipping in three simple steps - Load, Click and View. Compared to any other system on the market, Xmatrx® systems offer clean intense stain(s), automate more assay steps, and enable automation of technologies for the future molecular pathology laboratory.

- Xmatrx® ELITE integrates All-in-One staining of IHC, ISH, FISH, Mulit-plexing and beyond
- Xmatrx® Infinity is a high-performance staining platform for life sciences and translational research
- NanoVIP® 300 is a fully-automated, 30-slide benchtop compact system with micro-chamber® for FISH, ISH and IHC
- NanoVIP® is a fully-automated, 10-slide benchtop compact system with micro-chamber® for FISH, ISH and IHC

We also offer a series of i6000™ systems with very high throughput: 200 slides in an 8-hour shift.

To maintain our tradition of offering superior solutions for the emerging needs of your laboratory, we offer a broad range of molecular pathology products for IHC, ISH,FISH, miRNA, multiplex staining of tissues including 600+ primary antibodies, molecular probes, detection systems, and ancillaries. These are offered for standardized, reliable and consistent results to support the needs of molecular pathology laboratories of today, tomorrow and beyond.

BioGenex is committed to the core values of innovation, reliability, productivity, quality, superior after-sales support and service for complete customer satisfaction.

I invite you to learn more about our exciting products and future development through this catalog and our new website at www.biogenex.com. Should you have any suggestions for improving our products and services, I encourage you to write me directly at k.kalra@biogenex.com.

Give us an opportunity and experience the difference.

Warm Regards,
Krishan Kalra, Ph.D.
CEO

“To Enable Pathologists and Clinicians for Precise Diagnosis and Improved life of Cancer Patient”

Dr. Krishan Kalra

- **Innovation**
- **Quality**
- **Service**
- **Reliability**
- **Productivity**

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For latest product offerings visit our website **www.biogenex.com** or contact our customer support: **customer.service@biogenex.com**

Overview

BioGenex celebrated its 36th anniversary serving the anatomic pathology market. We take great pride in providing premier service and support while bringing new and technologically advanced products to the market.

BioGenex provides a "Total Solution" for slide-based cell and tissue analysis. Our products include a wide variety of antibodies, highly sensitive detection kits, automated systems, probes and ancillary products. Our automated systems streamline operations in molecular and cellular pathology laboratories, providing effective tools for the detection and diagnosis of cancer and other diseases. BioGenex continues to innovate as evidenced by the launch of the Xmatrx® Staining System which provides complete automation "From Microtome to Microscope".

We are committed to providing our customers and our distributors with flexible, innovative and cost-effective tools for clinical diagnostics, life science research and drug discovery.

Service

We value you and your business. We want our relationship to be one of total satisfaction. Our Technical Support Specialists provide fast troubleshooting advice and technical information and they are responsive to your individual needs. Just visit our website at www.biogenex.com, send an e-mail to support@biogenex.com or call toll free at 1-(800)-421-4149 from 7:00 AM to 4:00 PM (PST), Monday through Friday, with your request.

Quality

BioGenex is committed to excellence by providing high-quality products. We offer a broad range of products which are manufactured using state-of-the-art equipment in controlled environments. They are stringently tested to ensure that they meet or exceed functional, dimensional, and environmental requirements and are compliant with federal regulations. Our automated systems are designed for high-throughput at a low cost of ownership. They provide consistent quality results with ease-of-use and maximum flexibility for clinical diagnostics, life science research, and drug discovery markets.

Reliability

BioGenex products give consistent, reproducible and reliable results. Our automated systems are highly reliable and dependable, giving our customer peace of mind.

Innovation

BioGenex has a rich history of innovation in the field of Immunohistochemistry (IHC) and *In situ* Hybridization (ISH). BioGenex has a strong intellectual portfolio, consisting of several US and foreign-issued patents, in the areas of

- DNA labeling and amplification
- Antigen retrieval and deparaffinization
- Automation of tissue and cell sample preparation
- Automated IHC, and staining of nucleic acids
- Nucleic acid retrieval for tissues

Productivity

BioGenex has automated cell and tissue analysis to accelerate clinical diagnostics and drug discovery development. We have developed the total walk-away, industrial scale automated systems to streamline and standardize an array of processes for cell and tissue testing in IHC, ISH/CISH, FISH, and image analysis applications. We offer a "Total Solution" automating every aspect of the histology slide preparation "From Microtome to Microscope". These technologies significantly increase laboratory operation productivity for clinical diagnostics, drug discovery and life sciences research applications by providing high-quality staining and imaging solutions.

Ordering Information

BioGenex Customer Service

Please call our Customer Service department from 07:00 A.M. to 04:00 P.M. (PST), Monday through Friday, to place an order or to inquire about an existing order.

Telephone (toll-free)	1-(800)-421-4149 (Option 1)
Fax (toll-free)	1-(888)-866-2500 (orders only)
Fax	1-(510)-824-1490
E-mail	customer.service@biogenex.com
Mail Orders	BioGenex Laboratories, Inc. Attention to: Customer Service 49026 Milmont Drive Fremont, CA 94538

Quote request can also be placed via our website.
To expedite the order process, please include the following information on your purchase order or correspondence:

- Purchase order number
- Customer number
- Name, phone and fax number of person ordering
- Shipping address (please do not use P.O. Box number)
- Billing address (if different from above)
- Name of product, catalog number, quantity, and price
- Special shipping instructions
- Credit card number and expiration date (for credit card payments)

International Orders

To place an order from outside the US, please contact your local BioGenex channel partner/distributor. Please visit our website www.biogenex.com, for more details. For countries where BioGenex does not have any channel partners/distributors, please e-mail us at internationalcs@biogenex.com

Opening a New BioGenex Account

First time orders paid by credit card (see under Payment) will be processed and shipped immediately. For other payment methods please accept a delivery time of up to five business days for credit verification purposes.

Credit Terms

Net 30 days in U.S. Dollars, upon approval. Overdue accounts are subject to a finance charge of 1.5% per month (18% per annum).

Confirming Orders

To avoid duplication of your shipment, please mark boldly “confirming order - please do not ship” on your order.

Pricing

All prices are quoted in U.S. dollars, exclusive of state and county sales tax, where applicable. Prices are valid only for shipments within U.S. and are subject to change without notice. Please inquire about our standing order and quantity discount policies.

Shipping

Shipping and handling charges are prepaid and added to the invoice. They vary with the destination, weight and content, and are available upon request at order entry and are indicated on the invoice. Reagent orders received by 2:00 P.M. (PST), Monday through Thursday, will generally be Expedited Shipping for Next Day Delivery. Early A.M. and Saturday delivery are available upon request.

Payment

All payments must be made in U.S. dollars. The following methods of payment are accepted:

- Bank transfer (see invoice for instructions)
- Check, drawn on a U.S. bank, made payable to: “BioGenex Laboratories, Inc.”
- MasterCard®
- Visa®
- American Express®

Return Policy

Reagents are covered by the following Total Quality Assurance policy which states:

If you are not completely satisfied with the quality of our reagents, you may return them to us for a refund or replacement, at our option. BioGenex’s liability is limited to a refund or replacement, at our option. Please obtain a Return Material Authorization (RMA) number from Customer Service prior to the return of a product. Returns, which are not caused by unsatisfactory product performance, must be made within 30 days of delivery and will be subject to a 30% restocking fee. Returns or replacements cannot be accommodated for expired products. All products sent without an RMA number will be returned to sender.

General Information

Web Site
For the latest information on new product releases listed pricing, special offers and for placing an online order, please visit our new website, **www.biogenex.com**

Customer Support
Our technical support and customer service specialists are ready to provide fast and detailed Information for your questions and needs. Please call our toll-free number to reach us.

Customer Service USA
Tel: 1-(800)-421-4149 (Option 1)
Fax: 1-(510)-824-1490
E-mail: customer.service@biogenex.com

Technical Support USA
Tel: 1-(800)-421-4149 (Option 2)
Fax: 1-(510)-824-1490
E-mail: support@biogenex.com
Website: www.biogenex.com

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Fremont, CA 94538
Tel: 1-510-824-1400, 1-(800)-421-4149
Fax: 1-(510)-824-1490

Corporate Business
For general business matters not related to product orders or inquiries, please call us at 1-(800)-421-4149 or fax your correspondence to our main corporate business fax: 1-(510) 824-1490.

Trademarks
The following are trademarks of BioGenex Laboratories, Inc. USA

AccuSlide®	i6000™	XISH™
BioGenex®	MultiLink®	XMount™
EZ-Retriever®	NanoMtrx®	Xmatrx®
EZ-DeWax™	NanoVIP®	XViz™
eXACT™	Neuvo®	XWash™
EZ-AR™	OptiPlus™	
GenoMx®	Power Block™	
InSite®	Super Mount®	
i500 Plus™	Super Sensitive™	

Additional Information

Nationwide Training Workshops
As a service to our customers, BioGenex has developed lectures and workshops on the full range of Immunohistochemistry and *in situ* Hybridization techniques. Please call our Technical Support Department or Regional Account Executive for more information on how you can participate in our educational workshops. Topics include the following:

- Basic Immunohistochemistry
- Cancer Panels
- Microwave-Based Antigen Retrieval
- ER/PR Immunostaining
- Troubleshooting
- Automation
- *in situ* Hybridization
- Double Staining
- Multiplexing and Co-detection of Protein and Nucleic Acid Biomarkers

We raise awareness of miRNA detection issues and recommend research directions to help pathologists integrate miRNA testing into clinical decision-making.

Free Technical Literature
In addition to the educational brochures produced by BioGenex, we offer other technically useful information to the histopathology specialists on our website, www.biogenex.com where you can download our data sheet, product catalog or relevant presentation that may accompany each product assay protocols, kit instruction manuals and conference posters. Please call our Technical support department to request specific items or to add your name to our mailing list.

Technology Partnering Opportunities
We are always interested in licensing innovative technology that will be useful to our customers. If you are a researcher and have new antibody clones or other new diagnostic technologies please think of BioGenex as a potential partner in marketing your inventions and discoveries. We have the scientific expertise and marketing experience necessary for the successful commercialization of your technical achievements. BioGenex has an active Research and Development program fully staffed with PhD and MD professionals who are experienced in immunopathology, protein chemistry, and molecular biology. For more information on technology transfer opportunities, please contact us at customer.service@biogenex.com

MicroRNA Probes

New

MicroRNA Probes

MicroRNAs (miRNAs) are endogenous, non-coding RNAs known to regulate gene expression by translational repression or RNA cleavage. Since miRNA has been observed to deregulate during progression of different cancer stages from normal to malignant and metastasis, the expression profile as a result of this deregulation can be exploited as a potential biomarker for cancer characterization.

IVD Products: Unless specified otherwise, all miRNA probes listed in the section are for In Vitro Diagnostics Use.

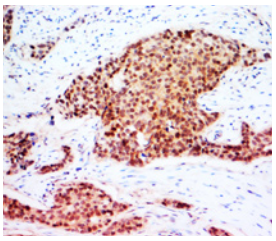
Automated and manual protocols

- Optimized for automated ISH staining by Xmatrx® ELITE
- Ready-to-use(RTU) reagents for FFPE tissues
- ISH Detection System and ancillaries

Highly Specific and Sensitive Probes

- Proprietary technology for clean intense stains
- *in situ* context of tissue morphology
- Positive control tissue slides

Hsa-miR-299-3p

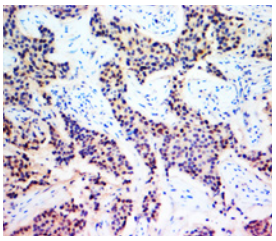


Hsa-miR-229-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM299-3P-100E
Specificity:	miR-299-3p
Recommended Barrier Control:	FB-HM299-3P

miRNA-299-3p has been reported to modulate replicative senescence in endothelial cells and may be the target for potential clinical use to decrease invasiveness of breast cancer. The expression level of miRNA-299-3p identified statistically significant difference in melanoma samples. The fluorescinated hsa-miR-299-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-301a-3p

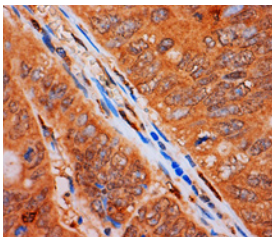


Hsa-miR-301a-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM301A-3P-100E
Specificity:	miR-301a
Recommended Barrier Control:	FB-HM301A-3P

miRNA-301a-3p is down-regulated in pancreatic cancer cells and contributes to development of extrogen independence to lead to the invasion of breast cancer. The expression level of miRNA-301a-3p identified statistically significant difference in melanoma. The fluorescinated hsa-miR-301a-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-556

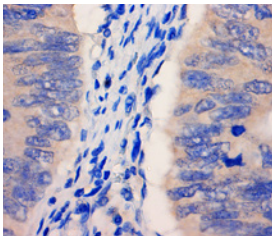


Hsa-miR-556 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM556-100E
Specificity:	miR-556
Recommended Barrier Control:	FB-HM556

miRNA-556 is a novel marker of human colorectal cancer cells. The expression level of miRNA-556 is important for short disease free survival and overall survival in stage II colon cancer which may suggest its important role as a valuable aid to therapeutic decision marking in colorectal cancer (CRC) disease progress. The fluorescinated hsa-miR-556 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-656-3p



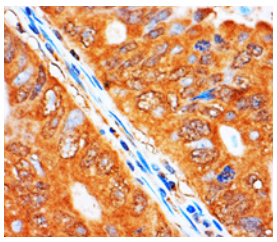
Hsa-miR-656-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM656-3P-100E
Specificity:	miR-656-3p
Recommended Barrier Control:	FB-HM656-3P

miRNA-656-3p has been reported to express in colon tissues. The expression level of miRNA-656-3p identified high-risk patients of TNM-stage II colon cancer which may suggest its important role as a valuable aid to classify patients in TNM-stage II cancer with high risk of recurrence. The fluorescinated hsa-miR-656-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

New

Hsa-miR-671-3p

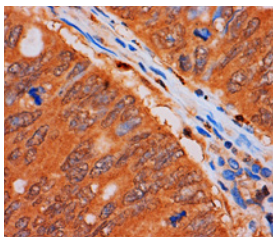


Hsa-miR-671-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM671-3P-100E
Specificity:	miR-671-3p
Recommended Barrier Control:	FB-HM671-3P

miRNA-671-3p is reported to express in colon tissues and functions as a tumor suppressor in breast cancer by influencing the Wnt signaling pathway. The expression level of miRNA-671-3p identified high-risk patients of TNM-stage II colon cancer. The fluorescinated hsa-miR-671-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-5010-3p

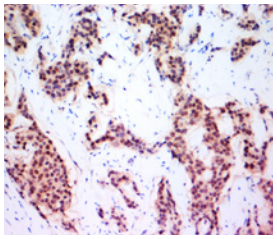


Hsa-miR-5010-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM5010-3P-100E
Specificity:	miR-5010-3p
Recommended Barrier Control:	FB-HM5010-3P

miRNA-5010-3p is reported to be dysregulated in colon adenomas. The expression level of miRNA-5010-3p identified high-risk patients of TNM-stage II colon cancer which may suggest its important role as a valuable aid to classify patients in TNM-stage II cancer with high risk of recurrence. The fluorescinated hsa-miR-5010-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-1537

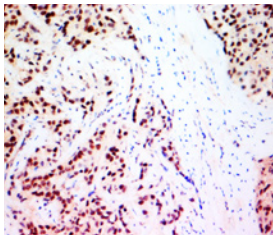


Hsa-miR-1537 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1537-100E
Specificity:	miR-1537
Recommended Barrier Control:	FB-HM1537

miRNA-1537 is reported to be up-regulated in melanoma and related with Her2 subtype breast cancer patients survival rate. The expression level of miRNA-1537 identified statistically significant difference in melanoma samples which may suggest its important role as a diagnostic biomarker and improve the precision and accuracy of melanoma detection and monitoring. The fluorescinated hsa-miR-1537 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-4787-3p

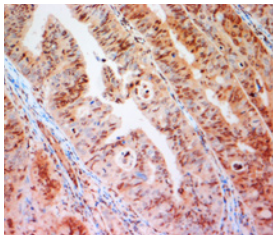


Hsa-miR-4787-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM4787-3P-100E
Specificity:	miR-4787-3p
Recommended Barrier Control:	FB-HM4787-3P

miRNA-4787-3p is a potential important marker for breast cancer. The expression level of miRNA-4787-3p identified statistically significant difference in melanoma samples which may suggest its important role as a diagnostic marker for melanoma. The fluorescinated hsa-miR-4787-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-5100

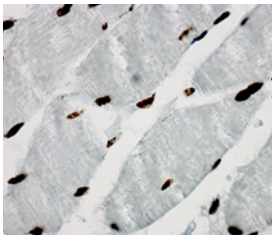


Hsa-miR-5100 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM5100-100E
Specificity:	miR-5100
Recommended Barrier Control:	FB-HM5100

The expression level of miRNA-5100 is increased in non-small-cell lung cancer and pancreatic cancer. miRNA-5100 identifies high-risk patients of TNM-stage II colon cancer which may suggest its important role as a valuable aid to classify patients in TNM-stage II cancer with high risk of recurrence. The fluorescinated hsa-miR-5100 probe is designed to localize this miRNA in FFPE tissue by *in situ*.

Hsa-miR-1

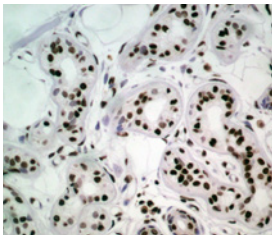


Hsa-miR-1 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM001-100E
Specificity:	miR-1
Recommended Barrier Control:	FB-HM001

miR-1 plays a key role in the development and differentiation of smooth and skeletal muscles. The fluorescinated hsa-miR-1 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-let-7a

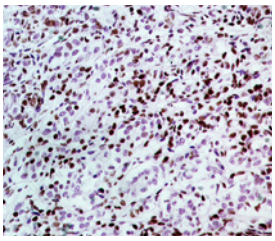


Hsa-miR-let-7a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM007A-100E
Specificity:	let-7a
Recommended Barrier Control:	FB-HM007A

miR-let-7a has been shown to directly alter cell cycle progression and proinflammatory cytokine production. The fluorescinated hsa-miR-let-7a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-let-7b

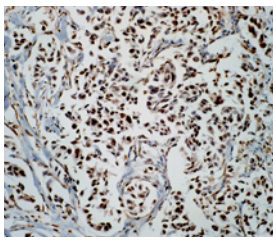


Hsa-miR-let-7b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM007B-100E
Specificity:	let-7b
Recommended Barrier Control:	FB-HM007B

Let-7 family gene was first discovered in the nematode as a key developmental regulator. The expression of let-7 family has been reported to be lower in multiple tumor tissue than in normal tissue. The fluorescinated hsa-miR-let-7b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-let-7c

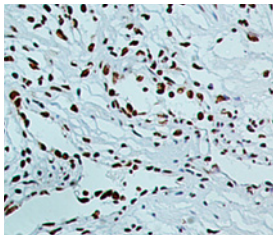


Hsa-miR-let-7c detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM007C-100E
Specificity:	let-7c
Recommended Barrier Control:	FB-HM007C

Data suggest that miR-let-7c suppresses androgen receptor expression and activity via regulation of myc expression. The fluorescinated hsa-miR-let-7c probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-let-7d

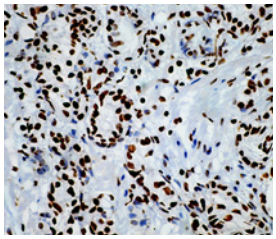


Hsa-miR-let-7d detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM007D-100E
Specificity:	let-7d
Recommended Barrier Control:	FB-HM007D

Let-7 family gene was first discovered in the nematode as a key developmental regulator. The expression of let-7 family has been reported to be lower in multiple tumor tissue than in normal tissue. The fluorescinated hsa-miR-let-7d probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-let-7e

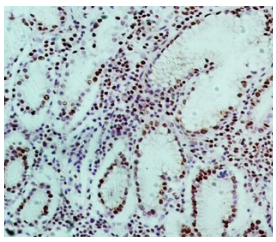


Hsa-miR-let-7e detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM007E-100E
Specificity:	let-7e
Recommended Barrier Control:	FB-HM007E

miR-let-7e plays a pivotal role in stem cell differentiation and its loss results in reversion of embryogenesis and dedifferentiation. The fluorescinated hsa-miR-let-7e probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-let-7g

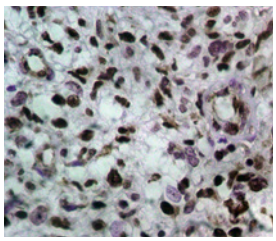


Ready-to-use (Manual): HM007G-100E
Specificity: let-7g
Recommended Barrier Control: FB-HM007G

Hsa-miR-let-7g detected in FFPE tissue stained with DAB

Let-7 family gene was first discovered in the nematode as a key developmental regulator. The expression of let-7 family has been reported to be lower in multiple tumor tissue than in normal tissue. The fluorescinated hsa-miR-let-7g probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-9

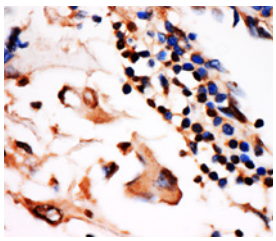


Ready-to-use (Manual): HM009-100E
Specificity: miR-9
Recommended Barrier Control: FB-HM009

Hsa-miR-9 detected in FFPE tissue stained with DAB

A series of miR-9 targets, such as nuclear factor (NF)-κB1, caudal type homeobox 2 (CDX2), chromobox protein homolog 7 (CBX7), and methenyltetrahydrofolate cyclohydrolase (MTHFD2), were associated with cancer. miR-9 expression is downregulated in some types of cancers, including gastric, ovarian, and neuroblastoma; however, the levels of miR-9 expression have proved to be upregulated in colorectal cancer, breast cancer, lung cancer, and laryngeal squamous cell carcinomas. The fluorescinated hsa-miR-9 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-10b

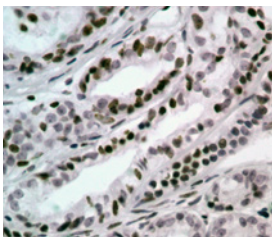


Ready-to-use (Manual): HM010B-100E
Specificity: miR-10b
Recommended Barrier Control: FB-HM010B

Hsa-miR-10b detected in FFPE tissue stained with DAB

miR-10b has been identified as a target gene of transforming growth factor-β (TGF-β1) which is a multifunctional cytokine that induces EMT in multiple cell types. The fluorescinated hsa-miR-10b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-15a

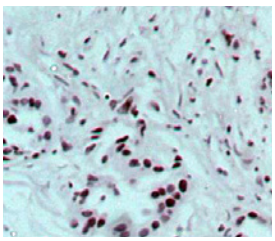


Ready-to-use (Manual): HM015A-100E
Specificity: miR-15a
Recommended Barrier Control: FB-HM015A

Hsa-miR-15a detected in FFPE tissue stained with DAB

miR-15a might function as a tumor suppressor in the disease, and its expression has been reported to be lower in multiple tumor tissue than in normal tissue, including ovarian cancer, pancreatic cancer. The fluorescinated hsa-miR-15a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-15b

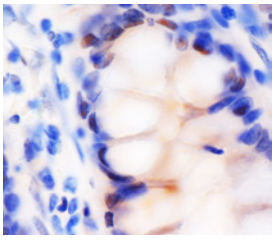


Ready-to-use (Manual): HM015B-100E
Specificity: miR-15b
Recommended Barrier Control: FB-HM015B

Hsa-miR-15b detected in FFPE tissue stained with DAB

MiR-15b plays an important role in DNA damage response and repair mechanisms, thus protects cells from genotoxic stress. Recently, it has been reported that the expression of miR-15b may be altered following exposure to various genotoxic stressors including radiation, hydrogen peroxide and etoposide. The fluorescinated hsa-miR-15b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-16

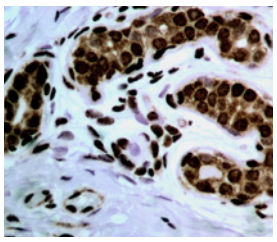


Ready-to-use (Manual): HM16-100E
Specificity: miR-16
Recommended Barrier Control: FB-HM16

Hsa-miR-16 detected in FFPE tissue stained with DAB

A recent meta-analysis showed that miR-16 family members have a relatively high value as promising biomarkers in diagnosing cancers. Another meta-analysis showed that the pooled sensitivity and specificity of miR-16 were 90% and 79.3% in diagnosing gastric cancer, which indicated that the measurement of elevated miR-16 levels in plasma could be a potential marker for gastric cancer. The fluorescinated hsa-miR-16 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-17

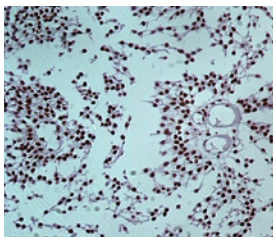


Hsa-miR-17 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM017-100E
Specificity:	miR-17
Recommended Barrier Control:	FB-HM017

miR-17-92 is a polycistronic microRNA cluster that contains multiple microRNA components, each of which has a potential to regulate hundreds of target mRNAs. The fluorescinated hsa-miR-17 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-19a

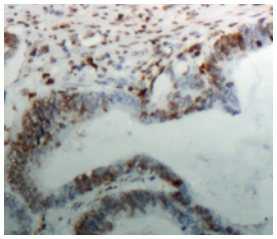


Hsa-miR-19a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM019A-100E
Specificity:	miR-19a
Recommended Barrier Control:	FB-HM019A

The suppressor of cytokine signaling 1 (SOCS1) is a novel target of miR-19a in gastric cancer cells and miR-19a expression is inversely correlated with SOCS1 expression in gastric cancer cells and tissues. Ectopic expression of miR-19a dramatically promoted proliferation and tumorigenicity of gastric cancer cells both in vitro and in vivo. The fluorescinated hsa-miR-19a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-17-3p

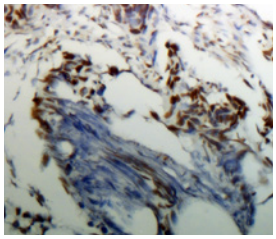


Hsa-miR-17-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM017-3P-100E
Specificity:	miR-17-3p
Recommended Barrier Control:	FB-HM017-3P

miR-17 enhanced prostate tumor growth and invasion by increasing tumor cell proliferation, colony formation, cell survival and invasion. Both miR-17-5p and miR-17-3p repressed TIMP metallopeptidase inhibitor 3 (TIMP3) expression. The fluorescinated hsa-miR-17-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-19b-3p

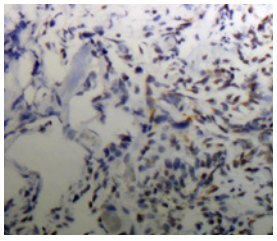


Hsa-miR-19b-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM019B-3P-100E
Specificity:	miR-19b-3p
Recommended Barrier Control:	FB-HM019B-3P

miR-19b-3p was identified to be the novel potential plasma biomarkers to detect gastric cancer. The fluorescinated hsa-miR-19a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-18a

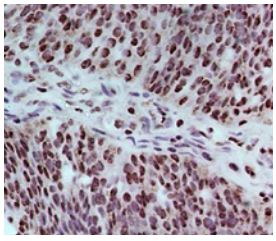


Hsa-miR-18a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM018A-100E
Specificity:	miR-18a
Recommended Barrier Control:	FB-HM018A

Hsa-miR-18a is located in the miR-17-92 cluster and reported to be highly expressed in multiple cancer tissue, including pancreatic cancer, gastric cancer, colorectal cancer tissues and hepatocellular carcinoma. The fluorescinated hsa-miR-18a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-20a

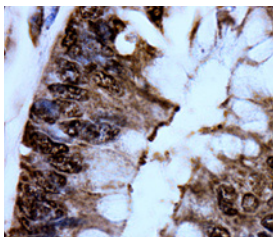


Hsa-miR-20a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM020A-100E
Specificity:	miR-20a
Recommended Barrier Control:	FB-HM020A

miR-20a was up-regulated in high-metastatic colon cancer cells and may contribute to the metastatic activity of colon cancer cells. miR-20a was involved in the regulation of cellular proliferation in human lung cancer and chronic myeloid leukemia. miR-20a also contributed to the invasive activity of ovarian carcinoma cells. The fluorescinated hsa-miR-20a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-21

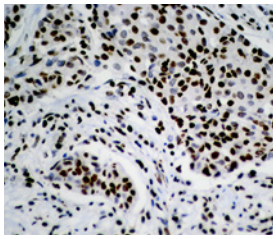


Hsa-miR-21 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM021-100E
Specificity:	miR-21
Recommended Barrier Control:	FB-HM021

miR-21 is shown to involve in diverse biologic processes such as cell differentiation, proliferation, and apoptosis, presumably by modulating target proteins. The target genes of miR-21 include PTEN and programmed cell death 4 (PDCD4). The fluorescinated hsa-miR-21 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-21-3p

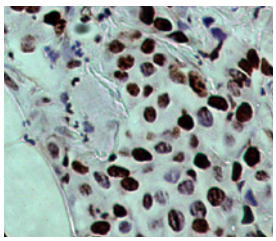


Hsa-miR-21-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM021-3p-100E
Specificity:	miR-21-3p
Recommended Barrier Control:	FB-HM021-3P

miR-21-3p has been shown to directly reduce the expression of two methionine adenosyltransferase genes by targeting their 3′-UTRs. The overexpression of miR-21-3p increases intracellular S-adenosylmethionine contents. The fluorescinated hsa-miR-21-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-22

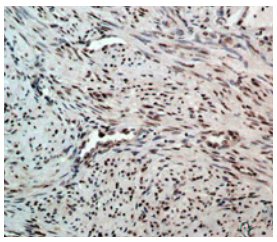


Hsa-miR-22 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM022-100E
Specificity:	miR-22
Recommended Barrier Control:	FB-HM022

miR-22 sequence locates on the short arm of chromosome 17, in a minimal loss of heterozygosity region. miR-22 was found to be over-expressed in prostate cancer but down-regulated in breast cancer, cholangiocarcinoma, multiple myeloma and hepatocellular carcinoma. The fluorescinated hsa-miR-22 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-23a

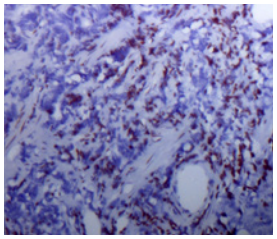


Hsa-miR-23a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM23A-100E
Specificity:	miR-23a
Recommended Barrier Control:	FB-HM23A

miR-23a is a miRNA cluster located in chromosome 19p13.12, which can function as an oncogene in several human cancers, including colon cancer, hepatocarcinoma, glioma, breast cancer, colorectal cancer, gastric adenocarcinoma, and haematological malignancies. The fluorescinated hsa-miR-23a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-23b

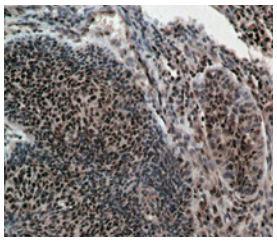


Hsa-miR-23b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM023B-100E
Specificity:	miR-23b
Recommended Barrier Control:	FB-HM023B

miR-23b is highly upregulated in human breast cancer. miR-23b directly targets RUNX2 in epithelial ovarian cancer (EOC) tissues. Ectopic expression of miR-23b inhibits EOC cell proliferation and tumorigenicity by regulating the expression of RUNX2. MiR-23b downregulation may be associated with EOC progression and poor prognosis. The fluorescinated hsa-miR-23b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-24-2

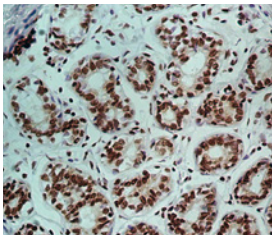


Hsa-miR-24-2 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM24-2-100E
Specificity:	miR-24-2
Recommended Barrier Control:	FB-HM24-2

miR-24 governs cellular development and proliferation, acting as a tumor suppressor or oncogene in a cell type-specific manner. miR-24 has been implicated as an oncogene in prostate cancer cells. In contrast, miR-24 has been described as a tumor suppressor in colon cancer cell lines by targeting and repressing dihydrofolate reductase (DHFR), a protein associated with enhanced proliferation. Additionally, multiple studies have demonstrated that miR-24 regulates the cell cycle both positively and negatively. The fluorescinated hsa-miR-24-2 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-24-3p

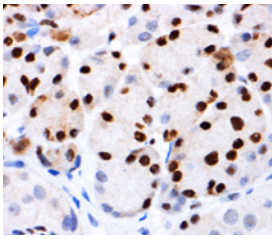


Hsa-miR-24-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM024-3P-100E
Specificity:	miR-24-3p
Recommended Barrier Control:	FB-HM024-3P

Recently, it has been shown that overexpression of miR-24-3p could alter T-cell proliferation and affect cellular gene expression through downregulation of mitogen activated protein kinase (MAPK) pathway in nasopharyngeal carcinoma. Thus imply the clinical relevance and prognostic value of tumor-derived exosomal miR-24-3p in T-cell dysfunction. The fluorescinated hsa-miR-24-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-25

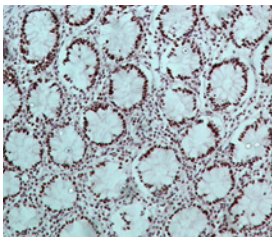


Hsa-miR-25 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM25-100E
Specificity:	miR-25
Recommended Barrier Control:	FB-HM25

miR-25 levels increase in human heart failure, and treatment with an anti-sense RNA molecule was recently reported to halt disease progression and improves cardiac function. The expression level of miR-25 in epithelial ovarian cancer (EOC) tissue was significantly higher than in adjacent normal tissue. The increased expression of miR-25 is closely related to poor prognosis of EOC, indicating that miR-25 may serve as a predictive biomarker for the prognosis of EOC. The fluorescinated hsa-miR-25 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-26a

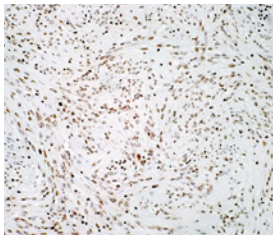


Hsa-miR-26A detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM026A-100E
Specificity:	miR-26a
Recommended Barrier Control:	FB-HM026A

miR-26 expression is induced in response to hypoxia and upregulated during smooth muscle cell (SMC) differentiation and neurogenesis. Moreover, miR-26 is consistently down-regulated in a wide range of malignant tumors, such as hepatocellular carcinoma, nasopharyngeal carcinoma, lung cancer, and breast cancer. miR-26a is overexpressed in high grade glioma and cholangiocarcinoma. The fluorescinated hsa-miR-26a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-27a

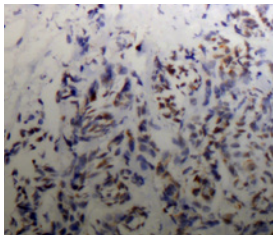


Hsa-miR-27A detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM027A-100E
Specificity:	miR-27a
Recommended Barrier Control:	FB-HM027A

Data suggested that miR-27a suppresses ZBTB10/RINZF expression, and this novel zinc finger protein inhibits Sp1-dependent activation of the gastrin gene promoter. The fluorescinated hsa-miR-27a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-27b

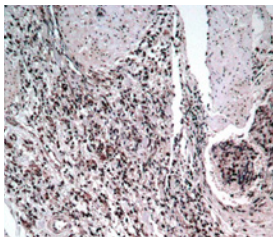


Hsa-miR-27b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM027B-100E
Specificity:	miR-27b
Recommended Barrier Control:	FB-HM027B

miR-27b has been identified as an oncogenic microRNA and is highly expressed in breast cancer cells. Inhibition of miR-27 by antisense molecules decreases cell proliferation. The fluorescinated hsa-miR-27b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-28-3p

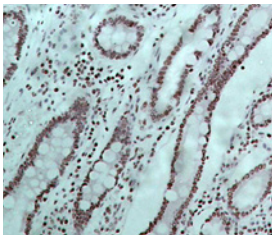


Hsa-miR-28-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM028-3P-100E
Specificity:	miR-28-3p
Recommended Barrier Control:	FB-HM028-3P

miR-28-3p is down-regulated in colorectal cancer (CRC) samples compared with normal colon samples. miR-28-3p increase CRC cell migration and invasion in vitro. The fluorescinated hsa-miR-28-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-28-5p

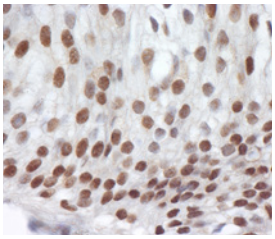


Hsa-miR-28-5p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM028-5P-100E
Specificity:	miR-28-5p
Recommended Barrier Control:	FB-HM028-5P

miR-28-5p is down-regulated in colorectal cancer (CRC) samples compared with normal colon samples. miR-28-5p increase CRC cell migration and invasion in vitro. The fluorescinated hsa-miR-28-5p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization

Hsa-miR-29a

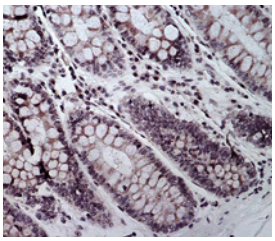


Hsa-miR-29a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM29A-100E
Specificity:	miR-29a
Recommended Barrier Control:	FB-HM29A

miR-29a was found to be one of the most expressed miRNAs in chronic lymphocytic leukemia (CLL) and its forced expression in B-cells from mouse resulted in the development of leukemia with B-CLL characteristics. Additionally, ectopic expression of miR-29a in mouse hematopoietic stem cells (HSC) promoted self-renewal of myeloid progenitors, leading to a myeloproliferative disorder and, ultimately, to acute myeloid leukemia (AML). The fluorescinated hsa-miR-29a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-29b-3p

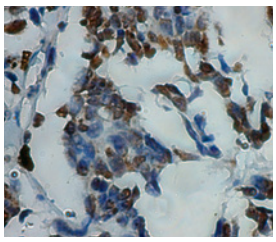


Hsa-miR-29b-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM29B-3P-100E
Specificity:	miR-29b-3p
Recommended Barrier Control:	FB-HM29B-3P

miR-29b-3p was found to be dysregulated in lung cancer, bladder cancer and colorectal cancer. The fluorescinated hsa-miR-29b-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-29c

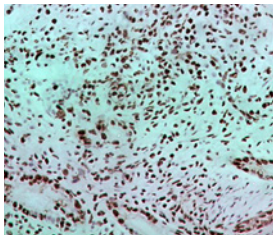


Hsa-miR-29c detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM029C-100E
Specificity:	miR-29c
Recommended Barrier Control:	FB-HM29C

Mir-29 microRNA families are involved in regulation of various types of cancers. mir-29 was shown to play an inhibitory role in tumorigenesis. Many mammalian genomes encode four closely related miR-29 precursors that are transcribed in two transcriptional units. miR-29c is co-transcribed from chromosome 1 and is frequently upregulated in lung cancer.. The fluorescinated hsa-miR-29c probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-30b

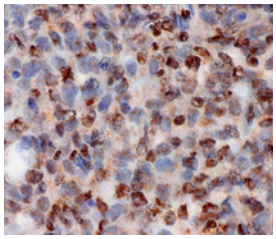


Hsa-miR-30b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM030B-100E
Specificity:	miR-30b
Recommended Barrier Control:	FB-HM030B

miR-30b promoted the metastatic behavior of melanoma cells by directly targeting the GalNAc transferase GALNT7, which resulted in increased synthesis of the immunosuppressive cytokine IL-10, and reduced immune cell activation and recruitment. The fluorescinated hsa-miR-30b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-30c

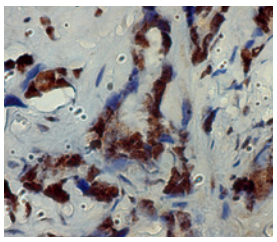


Hsa-miR-30c detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM030C-100E
Specificity:	miR-30c
Recommended Barrier Control:	FB-HM030C

miR-30c involved in regulating a number of breast cancer associated genes. It has been shown that the integrin ITGB3 and the ubiquitin conjugating E2 enzyme (UBC9) are downregulated by miR-30. It has also been suggested that the TP53 protein may be a target of miR-30c and miR-30e. Members of the miR-30 family have been found to be highly expressed in heart cells. The fluorescinated hsa-miR-30c probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-30e

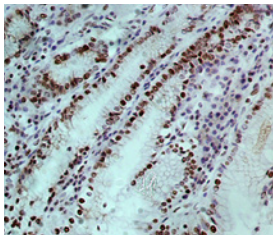


Hsa-miR-30e detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM030E-100E
Specificity:	miR-30e
Recommended Barrier Control:	FB-HM030E

miR-30e involved in regulating a number of breast cancer associated genes. It has been shown that the integrin ITGB3 and the ubiquitin conjugating E2 enzyme (UBC9) are downregulated by miR-30. It has also been suggested that the TP53 protein may be a target of miR-30c and miR-30e. Members of the miR-30 family have been found to be highly expressed in heart cells. The fluorescinated hsa-miR-30e probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-31

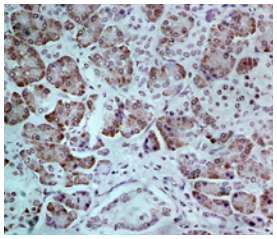


Hsa-miR-31 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM031-100E
Specificity:	miR-31
Recommended Barrier Control:	FB-HM031

miR-31 is known as a tumor suppressor miRNA. miR-31 is frequently deleted and is the most underexpressed microRNA in serous ovarian cancer type. It has been shown to affect the levels of tumor suppressor protein p53 in gastric cancer. miR-31 levels have been found to be significantly lower in tumor cells. The fluorescinated hsa-miR-31 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-34a

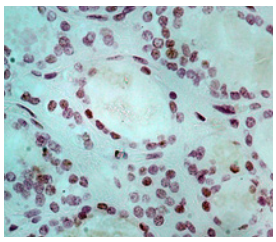


Hsa-miR-34a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM034A-100E
Specificity:	miR-34a
Recommended Barrier Control:	FB-HM034A

The human miR-34a precursor is transcribed from chromosome 1. miR-34a itself is a transcriptional target of p53, suggesting a positive feedback loop between p53 and miR-34a. Thus, miR-34a functions as a tumor suppressor, in part, through a SIRT1-p53 pathway. miR-34 dysregulation is involved in the development of some cancers. The fluorescinated hsa-miR-34a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-34c

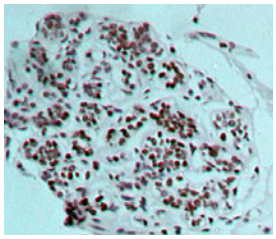


Hsa-miR-34c detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM34C-100E
Specificity:	miR-34c
Recommended Barrier Control:	FB-HM34C

miR-34c has also been reported to be downregulated in several tumor types, including melanoma, lung cancer, prostate cancer, breast cancer and colorectal cancer. Moreover, dysregulation of miR-34c has been proven to regulate tumor cell proliferation, apoptosis, senescence, migration and invasion. The fluorescinated hsa-miR-34c probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-92a

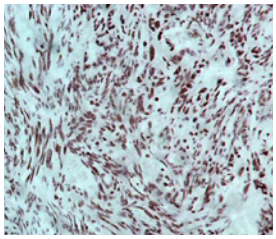


Hsa-miR-92a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM092A-100E
Specificity:	miR-92a
Recommended Barrier Control:	FB-HM092A

miR-92a is highly expressed in hepatocellular carcinoma (HCC). The proliferation of HCC-derived cell lines was enhanced by miR-92a and inhibited by the anti-miR-92a antagomir. The fluorescinated hsa-miR-92a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-95

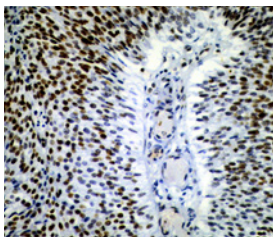


Hsa-miR-95 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM095-100E
Specificity:	miR-95
Recommended Barrier Control:	FB-HM095

miR-95 expression was up-regulated in human colorectal carcinoma (CRC). miR-95 increased proliferation by directly targeting SNX1. miR-95 expression levels correlated inversely with SNX1 protein levels in human CRC tissues. The fluorescinated hsa-miR-95 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-96

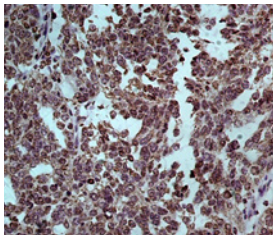


Hsa-miR-96 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM096-100E
Specificity:	miR-96
Recommended Barrier Control:	FB-HM096

miR-96 expression decreases the transcript and protein levels of FOXO1 by binding to one of two predicted binding sites in the FOXO1 3'-UTR sequence. The fluorescinated hsa-miR-96 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-98

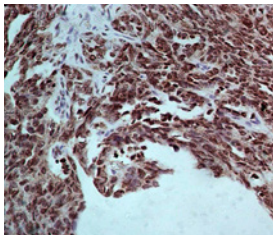


Hsa-miR-98 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM098-100E
Specificity:	miR-98
Recommended Barrier Control:	FB-HM098

The ectopic expression of miR-98 inhibited breast cancer cell proliferation, invasion, and angiogenesis through repressing ALK4 and MMP11 expression. The fluorescinated hsa-miR-98 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-99a

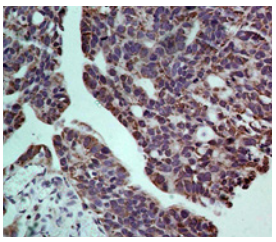


Hsa-miR-99a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM099A-100E
Specificity:	miR-99a
Recommended Barrier Control:	FB-HM099A

miR-99 family members miR-99a, -99b, and -100 were downregulated in prostate cancer cell lines relative to the parental cell lines. miR-99 family members were also downregulated in human prostate tumor tissue compared with normal prostate. miR-99 family members involved in prostate cancer suppression and prognosis. The fluorescinated hsa-miR-99a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-99b

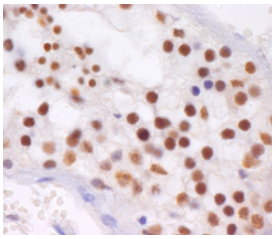


Hsa-miR-99b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM099B-100E
Specificity:	miR-99b
Recommended Barrier Control:	FB-HM099B

miR-99 family members miR-99a, -99b, and -100 were downregulated in prostate cancer cell lines relative to the parental cell lines. miR-99 family members were also downregulated in human prostate tumor tissue compared with normal prostate. miR-99 family members involved in prostate cancer suppression and prognosis. The fluorescinated hsa-miR-99b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-100

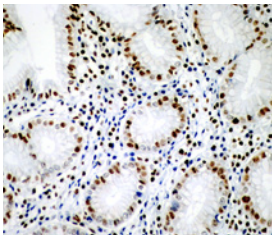


Hsa-miR-100 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM100-100E
Specificity:	miR-100
Recommended Barrier Control:	FB-HM100

miR-100 is lost in many cancers and have potential function as a tumor suppressor. miR-100 is lower in primary prostate cancer cells than in cells derived from benign prostate. miR-100 inhibits the tumorigenicity, motility and invasiveness of mammary tumor cells, and is commonly downregulated in human breast cancer due to hypermethylation. The fluorescinated hsa-miR-100 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-101-3p

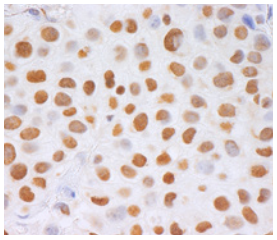


Hsa-miR-101-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM101-3P-100E
Specificity:	miR-101-3p
Recommended Barrier Control:	FB-HM101-3P

NDY1 up-regulation is shown to trigger the binding of EZH2 and NDY1 to the miR-101 locus. Activation of this pathway is essential for the epigenetic regulation of gene expression elicited by FGF-2. The fluorescinated hsa-miR-101-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-106a

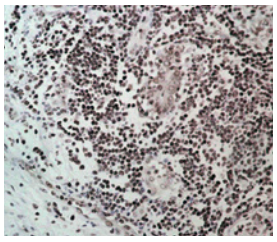


Hsa-miR-106a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM106A-100E
Specificity:	miR-106a
Recommended Barrier Control:	FB-HM106A

Sp1 and Egr1 are found to have an important role in miR-106a transcription and thus indirectly regulate the expression of IL-10 post-transcriptionally. The fluorescinated hsa-miR-106a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-107

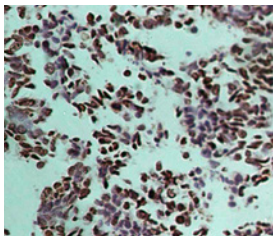


Hsa-miR-107 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM107-100E
Specificity:	miR-107
Recommended Barrier Control:	FB-HM107

miR-107 is a microRNA expressed by human colon cancer specimens and regulated by p53. miR-107 decreases hypoxia signaling by suppressing expression of hypoxia inducible factor-1β (HIF-1β). miR-107 may have a tumor suppressor function by directly targeting CDK6 to inhibit the proliferation and invasion activities of gastric cancer cells. The fluorescinated hsa-miR-107 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-122

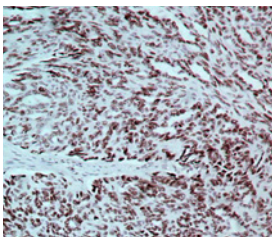


Hsa-miR-122 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM122-100E
Specificity:	miR-122
Recommended Barrier Control:	FB-HM122

miR-122 is specifically repressed in a subset of primary tumors that are characterized by poor prognosis. The loss of miR-122 expression in tumor cells segregates with specific gene expression profiles linked to cancer progression, namely the suppression of hepatic phenotype and the acquisition of invasive properties. The loss of miR-122 results in an increase of cell migration and invasion and that restoration of miR-122 reverses this phenotype. miR-122 is a marker of hepatocyte-specific differentiation and an important determinant in the control of cell migration and invasion. The fluorescinated hsa-miR-122 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-124

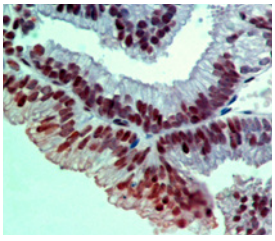


Hsa-miR-124 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM124-100E
Specificity:	miR-124
Recommended Barrier Control:	FB-HM124

The mature miR-124 sequence is processed from 3 separate premature sequences, located at chromosomes 8p23.1 (miR-124-1), 8q12.3 (miR-124-2) and 20q13.33 (miR-124-3). miR-124 is functionally involved in cervical carcinogenesis and may provide a valuable marker for improved detection of cervical cancer. The fluorescinated hsa-miR-124 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-125a

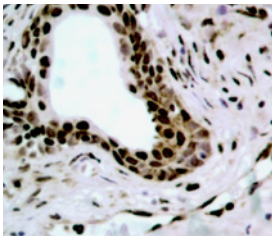


Hsa-miR-125a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM125A-100E
Specificity:	miR-125a
Recommended Barrier Control:	FB-HM125A

miR-125 family has been reported to be implicated in a variety of carcinomas and other diseases as either repressors or promoters including ovarian cancer, bladder cancer, breast cancer, hepatocellular carcinoma, melanoma, cutaneous squamous cell carcinoma and osteosarcoma. miR-125 family play crucial roles in many different cellular processes like cell differentiation, proliferation and apoptosis by targeting many different transcription factors ,matrix-metalloprotease, and growth factors. The fluorescinated hsa-miR-125a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-125b

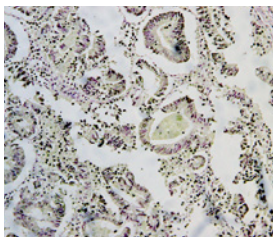


Hsa-miR-125b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM125B-100E
Specificity:	miR-125b
Recommended Barrier Control:	FB-HM125B

Enforced miR-125b expression in mammary cells is shown to decrease cell proliferation by inducing G2/M cell cycle arrest and reduced anchorage-independent cell growth of cells of mammary origin. The fluorescinated hsa-miR-125b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-126

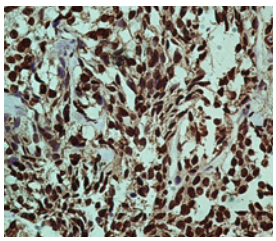


Hsa-miR-126 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM126-100E
Specificity:	miR-126
Recommended Barrier Control:	FB-HM126

miR-126 is a microRNA expressed predominately by endothelial cells and controls angiogenesis. The fluorescinated hsa-miR-126 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-127-3p

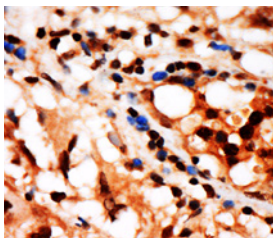


Hsa-miR-127-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM127-3P-100E
Specificity:	miR-127-3p
Recommended Barrier Control:	FB-HM127-3P

Downregualtion of miR-127 expression is mainly linked with hepatocellular carcinoma. miR-127 is highly expressed in normal prostate and bladder tissues. miR-127 functions to regulate the expression levels of genes involved in lung development, placental formation and apoptosis. The fluorescinated hsa-miR-127-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-128

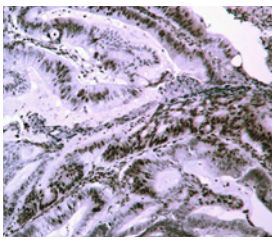


Hsa-miR-128 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM128-100E
Specificity:	miR-128
Recommended Barrier Control:	FB-HM128

miRNA-128 is the most abundant brain-enriched microRNA that is induced during neuronal differentiation. Apart from brain, miRNA-128 has also been found in the skeletal muscle. Down regulation of miRNA-128 has been reported in several brain cancers such as glioblastoma, medulloblastoma and neuroblastoma. The fluorescinated hsa-miR-128 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-129

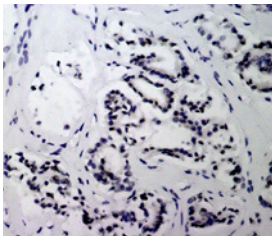


Hsa-miR-129 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM129-100E
Specificity:	miR-129
Recommended Barrier Control:	FB-HM129

miR-129-5p expression is down-regulated in gastric cancer, bladder cancer, hepatocellular carcinoma, medullary thyroid carcinoma, non-small cell lung cancer, glioma, and colorectal cancer. miR-129-5p promotes apoptosis and enhances chemosensitivity in colorectal cancer, while decreased miR-129-5p expression, as a result of hypermethylation of the miR-129 promoter, is associated with poor clinicopathological factors, such as clinical stage and progression in several cancers. The fluorescinated hsa-miR-129 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-130b

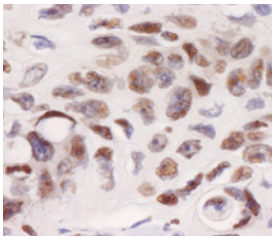


Hsa-miR-130b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM130B-100E
Specificity:	miR-130b
Recommended Barrier Control:	FB-HM130B

MiR-130b, located at the 22q11 locus, plays an oncogenic role in gastric, liver, and endometrial cancers, and acts as a tumor suppressor in ovarian cancer and thyroid papillary carcinoma. The fluorescinated hsa-miR-130b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-132

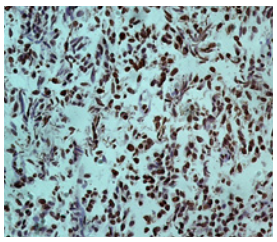


Hsa-miR-132 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM132-100E
Specificity:	miR-132
Recommended Barrier Control:	FB-HM132

miR-132, transcribed from an intergenic region on human chromosome 17, is aberrantly expressed in many cancer types, including lung cancer, pancreatic cancers and breast cancer tumors. A recent report indicated that miR-132 was significantly downregulated in colorectal cancer (CRC) tissues with distant metastases, and the ectopic expression of miR-132 markedly inhibited cell invasion and epithelial–mesenchymal transition in CRC cell lines by targeting zinc finger E-box binding homeobox 2. The fluorescinated hsa-miR-132 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-133a

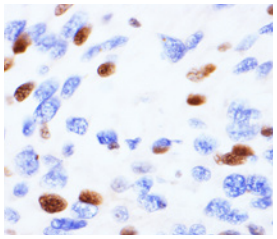


Hsa-miR-133a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM133A-100E
Specificity:	miR-133a
Recommended Barrier Control:	FB-HM133A

miR-133a is downregulated in bladder cancer and colorectal cancer. miR-133a was significantly reduced in tongue squamous cell carcinoma cells in comparison with the paired normal epithelial cells. The fluorescinated hsa-miR-133a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-133b

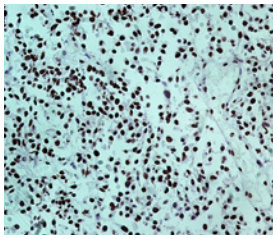


Hsa-miR-133b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM133B-100E
Specificity:	miR-133b
Recommended Barrier Control:	FB-HM133B

miR-133b is significantly downregulated in many cancer types, including gastric cancer, bladder cancer and colorectal cancer. Expression of miR-133b was negatively correlated with lymph node metastasis of gastric cancer in patients. The fluorescinated hsa-miR-133b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-135a

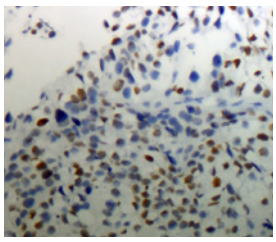


Hsa-miR-135a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM135A-100E
Specificity:	miR-135a
Recommended Barrier Control:	FB-HM135A

miR-135a is significantly downregulated in the pancreatic ductal adenocarcinoma (PDAC) cell lines and miR-135a plays a tumor-suppressive role in PDAC. miR-135a was highly expressed in metastatic breast tumors. miR-135a expression is downregulated in the majority of human primary gastric cancer tissues compared with pair-matched adjacent non-tumor tissues. The fluorescinated hsa-miR-135a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-135b

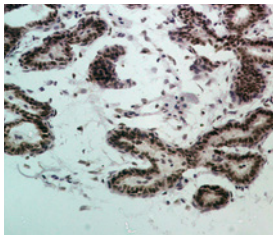


Hsa-miR-135b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM135B-100E
Specificity:	miR-135b
Recommended Barrier Control:	FB-HM135B

miR-135b is involved in the progression of several types of cancers. It was overexpressed in colon, breast, and lung cancer. miR-135b was downregulated in osteosarcoma and was further identified to be a tumor suppressor because the restoration of miR-135b expression in osteosarcoma cell lines reduced cell proliferation and suppressed cell migration and invasion. The fluorescinated hsa-miR-135b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-136

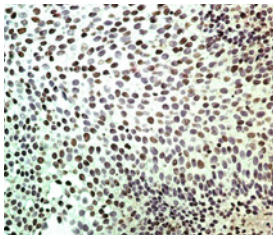


Hsa-miR-136 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM136-100E
Specificity:	miR-136
Recommended Barrier Control:	FB-HM136

miR-136 was significantly downregulated in specimens from patients with chemoresistant epithelial ovarian cancer. The low-level expression of miR-136 is significantly associated with a more aggressive and/or poor prognostic phenotype of patients with gliomas. The fluorescinated hsa-miR-136 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-137

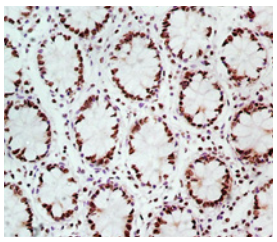


Hsa-miR-137 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM137-100E
Specificity:	miR-137
Recommended Barrier Control:	FB-HM137

Recently studies revealed that miR-137 play essential roles in tumorigenesis. miR-137 modulates pancreatic cancer cell growth, invasion and sensitivity to. miR-137 was significantly down-regulated in melanoma and inhibited proliferation of melanoma cells by targeting PAK2. miR-137 was decreased in colorectal cancer tissues and miR-137 inhibited cell growth, colony formation, and tumorsphere growth of colon cancer cell by targeting Musashi-1. The fluorescinated hsa-miR-137 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-138

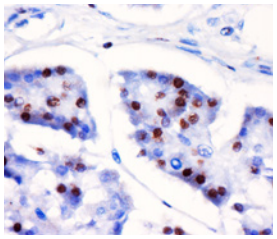


Hsa-miR-138 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM138-100E
Specificity:	miR-138
Recommended Barrier Control:	FB-HM138

The down-regulation of microRNA-138 has been frequently observed in various cancers, for example, tongue squamous cell carcinoma (TSCC) and lung cancer with decreased levels of cell proliferation and colony formation. The fluorescinated hsa-miR-138 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-139

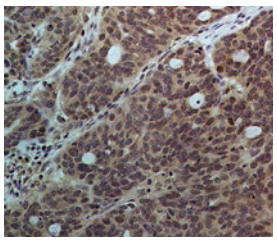


Hsa-miR-139 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM139-100E
Specificity:	miR-139
Recommended Barrier Control:	FB-HM139

miRNA-139 is located in 11q13.4 and has anti-oncogenic and antimetastatic activity in humans. miR-139 may be the candidate to serve as promising biomarkers with sufficient sensitivity and specificity for the diagnosis of cancer in a clinical setting. The fluorescinated hsa-miR-139 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-140

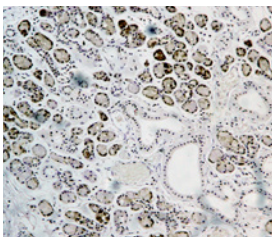


Hsa-miR-140 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM140-100E
Specificity:	miR-140
Recommended Barrier Control:	FB-HM140

miR-140 functions as a tumor suppressor in many cancers, including breast cancer, osteosarcoma, colon cancer and hepatocellular carcinoma. miR-140 is significantly downregulated in human non-small cell lung cancer (NSCLC) tissues. Overexpression of miR-140 inhibited tumor growth, invasion, and metastasis of NSCLC tissues. The fluorescinated hsa-miR-140 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-141

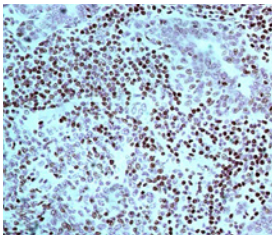


Hsa-miR-141 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM141-100E
Specificity:	miR-141
Recommended Barrier Control:	FB-HM141

miR-141, along with miR-200c, is an important member of the miR-200 family for regulating the epithelial to mesenchymal transition. The fluorescinated hsa-miR-141 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-142-3p

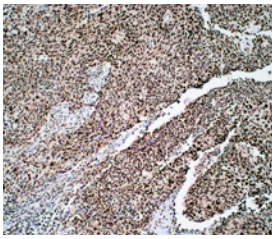


Hsa-miR-142-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM142-3P-100E
Specificity:	miR-142-3p
Recommended Barrier Control:	FB-HM142-3P

miR-142-3p is involved in the progression of esophageal squamous cell carcinoma (ESCC) and is a potential prognostic biomarker for ESCC. The fluorescinated hsa-miR-142-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-143

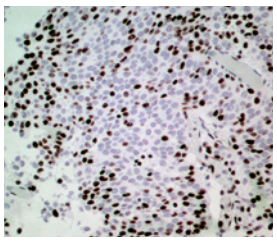


Hsa-miR-143 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM143-100E
Specificity:	miR-143
Recommended Barrier Control:	FB-HM143

miR-143 specifically targets PKCε and regulates its expression. Anti-miR-143 promotes cell proliferation, decreases apoptosis and up-regulates PKCε expression. The fluorescinated hsa-miR-143 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-144

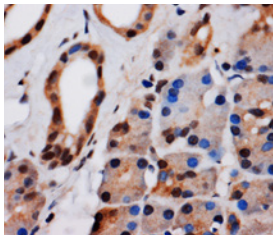


Hsa-miR-144 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM144-100E
Specificity:	miR-144
Recommended Barrier Control:	FB-HM144

miR-144 is shown to promote cell proliferation, migration and invasion through repression of PTEN and targeted by zinc finger X-chromosomal protein. The fluorescinated hsa-miR-144 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-145

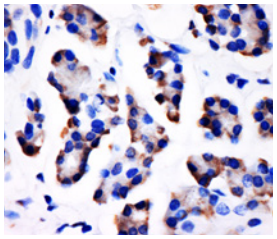


Hsa-miR-145 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM145-100E
Specificity:	miR-145
Recommended Barrier Control:	FB-HM145

MiR-145 could serve as a tumor suppressor by targeting paxillin gene, it inhibited TGF-β-induced epithelial-mesenchymal transition and invasion through repression of SMAD3 in non-small cell lung cancer cells, it played pivotal roles in bladder cancer cells by regulating ubiquitin-like with PHD and ring finger domains 1. These findings provide novel insights into the potential mechanisms of cancer oncogenesis and suggest novel therapeutic strategies. The fluorescinated hsa-miR-145 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-146a

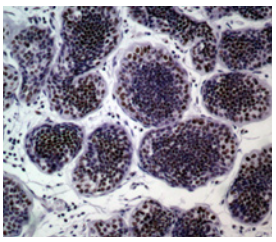


Hsa-miR-146a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM146A-100E
Specificity:	miR-146a
Recommended Barrier Control:	FB-HM146A

miR-146a plays a mechanistic role of in endotoxin-induced differential cross-regulation of TLR Signaling. The fluorescinated hsa-miR-146a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-146b

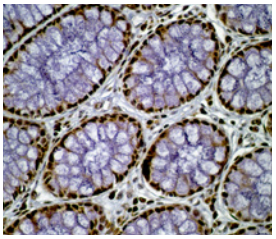


Hsa-miR-146b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM146B-100E
Specificity:	miR-146b
Recommended Barrier Control:	FB-HM146B

The expression of miR-146b-5p is known to be downregulated in solid tumors and acts as a tumor suppressor in glioma, prostate cancer and in metastatic breast cancer. Whereas in malignant melanoma, thyroid cancer and in sporadic triple negative breast cancer, it is reported to be upregulated and promotes tumor cell proliferation. The fluorescinated hsa-miR-146b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-147b

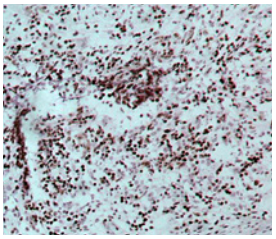


Hsa-miR-147b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM147B-100E
Specificity:	miR-147b
Recommended Barrier Control:	FB-HM147B

Studies demonstrated the participation of miR-147b in a negative feedback loop that is able to inhibit the pro-inflammatory response of macrophages to multiple TLR ligands. The fluorescinated hsa-miR-147b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-148a

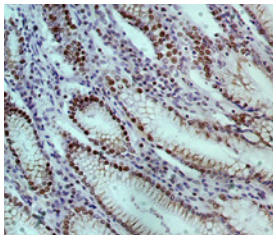


Hsa-miR-148a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM148A-100E
Specificity:	miR-148a
Recommended Barrier Control:	FB-HM148A

miR-148a expression is downregulated in several types of cancer, including breast cancer and gastric cancer. miR- 148a plays multiple roles as a tumor suppressor and can be a promising therapeutic target for hormone-refractory prostate cancer. The fluorescinated hsa-miR-148a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-148b

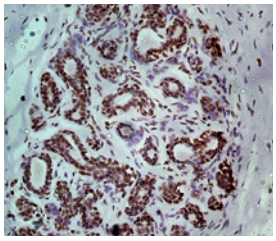


Hsa-miR-148b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM148B-100E
Specificity:	miR-148b
Recommended Barrier Control:	FB-HM148B

miR-148b was significantly downregulated in human pancreatic cancer, gastric cancer and colorectal cancers. Overexpression of miR-148b suppressed the growth of cancer cells, attributable to induction of apoptosis and cell-cycle arrest at S-phase. miR-148b inhibited invasion and enhanced chemosensitivity of pancreatic cancer cells. miR-148b was overexpressed in ovarian cancers and lung cancers. The fluorescinated hsa-miR-148b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-149

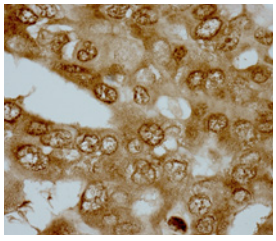


Hsa-miR-149 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM149-100E
Specificity:	miR-149
Recommended Barrier Control:	FB-HM149

miR-149 has been identified to be a suppressor of breast cancer metastasis. Increased miR-149 levels block lung colonization in vivo. Low level of miR-149 and high level of GIT1 was significantly associated with advanced stages of breast cancer, as well as with lymph node metastasis. The fluorescinated hsa-miR-149 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-150

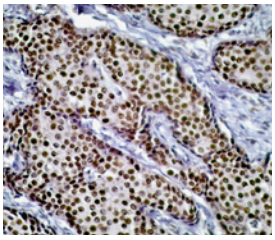


Hsa-miR-150 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM150-100E
Specificity:	miR-150
Recommended Barrier Control:	FB-HM150

miR-150 is mainly expressed in the lymph nodes and spleen and is highly up-regulated during the development of mature T and B cells. The fluorescinated hsa-miR-150 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-151a-3p

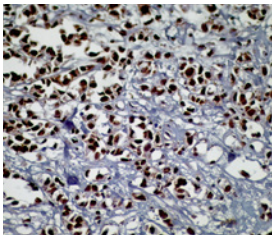


Hsa-miR-151a-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM151A-3p-100E
Specificity:	miR-151a-3p
Recommended Barrier Control:	FB-HM151A-3P

miR-151a has been demonstrated to be directly regulated by the p53-family of transcription factors and contributes to the tuning of p53-induced responses. The fluorescinated hsa-miR-151a-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-152-3p

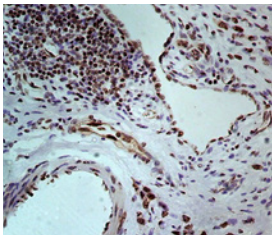


Hsa-miR-152-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM152-3p-100E
Specificity:	miR-152-3p
Recommended Barrier Control:	FB-HM152-3P

miR-152 is suggested to play a role in S-phase and G2/M-phase cell cycle progression of diploid fibroblasts. The fluorescinated hsa-miR-152-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-153

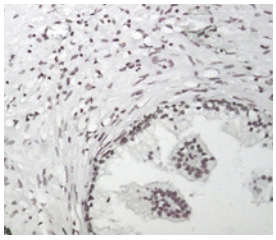


Hsa-miR-153 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM153-100E
Specificity:	miR-153
Recommended Barrier Control:	FB-HM153

miR-153 upregulation promoted colorectal cancer invasiveness by indirectly initiating matrix metalloprotease enzyme 9 productions. Overexpression of miR-153 in prostate cancer cells enhanced the G1/S transitional promoter, cyclin D1 expression, and decreased cyclin-dependent kinase (CDK) inhibitor, p21(Cip1) expression via downregulation of PTEN tumor suppressor gene and activated AKT signaling. The fluorescinated hsa-miR-153 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-154

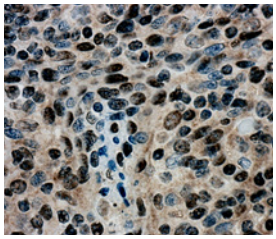


Hsa-miR-154 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM154-100E
Specificity:	miR-154
Recommended Barrier Control:	FB-HM154

miR-154 is deregulated and functions as a candidate tumor suppressor in some tumors such as hepatocellular carcinoma and prostate cancer. miR-154 was decreased in colorectal cancer (CRC) tissues and cell lines. Ectopic expression of miR-154 remarkably suppressed cell proliferation and colony formation, migration and invasion in CRC cells. The fluorescinated hsa-miR-154 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-155

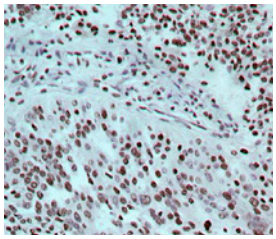


Hsa-miR-155 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM155-100E
Specificity:	miR-155
Recommended Barrier Control:	FB-HM155

miR-155 is expressed in a variety of immune cell types and present at low levels in most of these cells until their activation by immune stimuli such as toll-like receptor ligands. The fluorescinated hsa-miR-155 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-181a

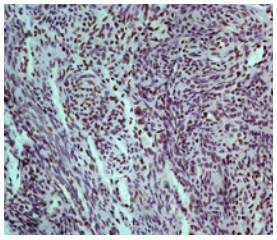


Hsa-miR-181a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM181A-100E
Specificity:	miR-181a
Recommended Barrier Control:	FB-HM181A

miR-181a expression was upregulated in metastatic breast tumors and serves as a predictive biomarker for breast cancer metastasis and patient survival. miR-181a expression is highly associated with the development of metastatic disease in breast cancers, particularly triple-negative breast cancers (TNBCs). The fluorescinated hsa-miR-181a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-181b

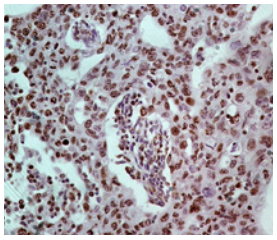


Hsa-miR-181b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM181B-100E
Specificity:	miR-181b
Recommended Barrier Control:	FB-HM181B

The downregulated miR-181b was involved in oncogenesis of glioma. miR-181b functioned as tumor suppressors which triggered growth inhibition, induced apoptosis and inhibited invasion in glioma cells. The fluorescinated hsa-miR-181b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-181c

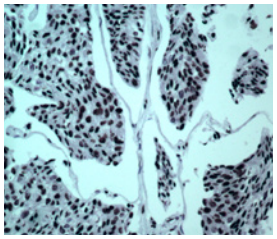


Hsa-miR-181c detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM181C-100E
Specificity:	miR-181c
Recommended Barrier Control:	FB-HM181C

miR-181c was overexpressed in papillary thyroid carcinoma and breast cancer. Aberrant miR- 181c expression is related to glioma, squamous cell carcinoma of the tongue, and other tumors. The fluorescinated hsa-miR-181c probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-182

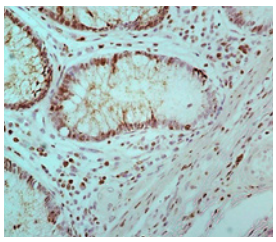


Hsa-miR-182 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM182-100E
Specificity:	miR-182
Recommended Barrier Control:	FB-HM182

miR-182, member of a miRNA cluster is located at chromosomal locus 7q31–34, is commonly overexpressd in many cancer types, including melanoma, breast cancer and lung cancer. The fluorescinated hsa-miR-182 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-183

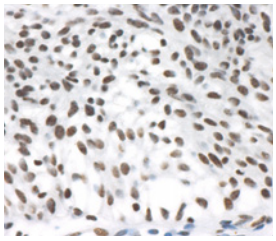


Ready-to-use (Manual):	HM183-100E
Specificity:	miR-183
Recommended Barrier Control:	FB-HM183

Hsa-miR-183 detected in FFPE tissue stained with DAB

The level of miR-183 expression in colorectal cancer has been reported to be higher than adjacent normal tissues, suggesting that miR-183 could be considered to be a promising biomarker for early colorectal cancer detection and accurate prognosis as well as targets for more efficient treatment. Indeed, miR-183 has been suggested to be an oncogene in several cancers such as colorectal, lung and hepatocellular, where it regulates diverse mediators of tumor survival and function, including targeting the tumor suppressor Bmi-1, EGR1, PTEN and SMAD4. The fluorescinated hsa-miR-183 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-183-3p

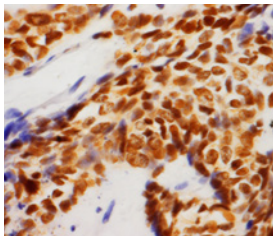


Ready-to-use (Manual):	HM183-3P-100E
Specificity:	miR-183-3p
Recommended Barrier Control:	FB-HM183-3P

Hsa-miR-183-3p detected in FFPE tissue stained with DAB

miR-183-3p was up-regulated in lung cancer tissues when compared with the corresponding noncancerous lung tissues. Moreover, the expression of miR-183-3p in tumor tissue was found to be associated with lymph node metastasis, clinical stage, and EGFR mutation. High miR-183-3p expression was also associated with both poor overall survival and progression-free survival of women with lung adenocarcinoma. The fluorescinated hsa-miR-183-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-184

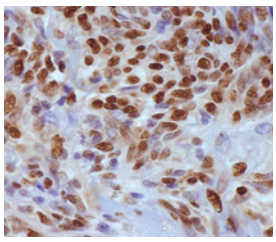


Ready-to-use (Manual):	HM184-100E
Specificity:	miR-184
Recommended Barrier Control:	FB-HM184

Hsa-miR-184 detected in FFPE tissue stained with DAB

miR-184 may be oncogenic in squamous cell carcinoma of the tongue and in hepatocellular carcinoma, but it may also be involved in inhibiting cell growth in neuroblastoma, nasopharyngeal carcinoma and non-small-cell lung cancers. The fluorescinated hsa-miR-184 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-185

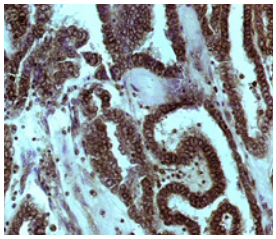


Ready-to-use (Manual):	HM185-100E
Specificity:	miR-185
Recommended Barrier Control:	FB-HM185

Hsa-miR-185 detected in FFPE tissue stained with DAB

miR-185 has been identified as an important factor in several cancers such as breast cancer, ovarian cancer, and prostate cancer. This relates to the fact that miR-185 is closely associated with tumor size, pTNM stage, lymph node, and perneural invasion. miR-185 is critical for gastric cancer initiation and progression and holds promise as a prognostic biomarker to predict survival and relapse in gastric cancer. The fluorescinated hsa-miR-185 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-186

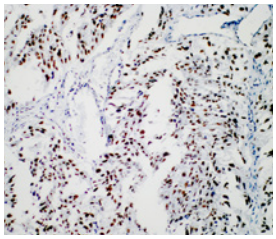


Ready-to-use (Manual):	HM186-100E
Specificity:	miR-186
Recommended Barrier Control:	FB-HM186

Hsa-miR-186 detected in FFPE tissue stained with DAB

Overexpression of miR-186 in non–small cell lung carcinoma (NSCLC) cells inhibited proliferation by inducing G1–S checkpoint arrest. miR-186 expression promoted cell-cycle progression and accelerated the proliferation of NSCLC cells. The fluorescinated hsa-miR-186 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-187

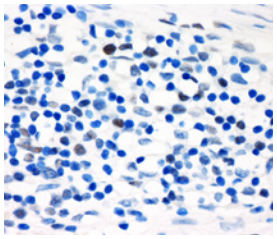


Ready-to-use (Manual):	HM187-100E
Specificity:	miR-187
Recommended Barrier Control:	FB-HM187

Hsa-miR-187 detected in FFPE tissue stained with DAB

miR-187 is shown to overexpress in the subtype exhibiting loss of chromosome 11q but not in the MYCN amplified subtype. The fluorescinated hsa-miR-187 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-190a

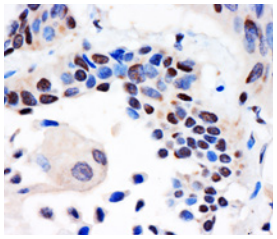


Hsa-miR-190a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM190a-100E
Specificity:	miR-190a
Recommended Barrier Control:	FB-HM190a

miR-190a belongs to the miRNA family and is located in the tail intron regions of two genes on 15q22.2. miR-190a is downregulated in aggressive neuroblastoma and prostate cancer. The miR-190a mediated effects rely on an extensive network of molecular changes in tumor cells and affects several transcriptional factors, tumor suppressor and interferon response pathways. The fluorescinated hsa-miR-190a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-190b

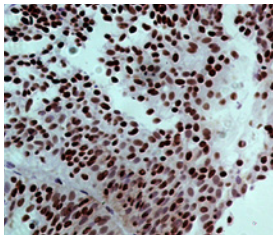


Hsa-miR-190b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM190b-100E
Specificity:	miR-190b
Recommended Barrier Control:	FB-HM190b

miR-190b negatively regulates tumor suppressor Bcl-2, possibly confers radio-sensitivity in gastric cancer cells. Also, miR-190b has been identified as a potential biomarker for ERα(+) breast cancer. The fluorescinated hsa-miR-190b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-191

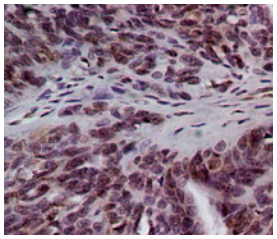


Hsa-miR-191 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM191-100E
Specificity:	miR-191
Recommended Barrier Control:	FB-HM191

miR-191 has been found to be dysregulated in a large number of different types of human tumors, including those of colorectal, breast and prostate cancers. miR-191 could be implemented in prognosis of acute myeloid leukaemia, with higher levels of miR-191 suggesting a lower survival probability. The fluorescinated hsa-miR-191 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-192

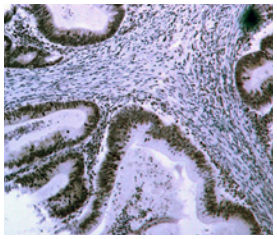


Hsa-miR-192 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM192-100E
Specificity:	miR-192
Recommended Barrier Control:	FB-HM192

miR-192 is thought to be positive regulators of p53, a human tumor suppressor. It is also overexpressed in gastric cancer, and could potentially be used as biomarkers or therapeutic targets. It has also been suggested that mir-192 could be used as a biomarker for drug-induced liver damage The fluorescinated hsa-miR-192 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-193a-3p

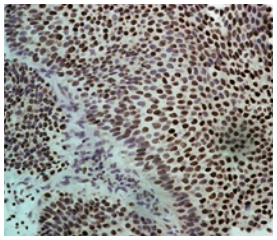


Hsa-miR-193a-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM193A-3P-100E
Specificity:	miR-193a-3p
Recommended Barrier Control:	FB-HM193A-3P

miR-193a-3p induces the accumulation of intracellular reactive oxygen species, DNA damage in cancer cells. Furthermore, miR-193a-3p directly recognizes the 3′-UTR of the ERBB4 transcript and regulates ERBB4 expression, one of four ErbB receptor tyrosine kinase family members that play an important role in the etiology and progression of lung cancer. Repression of ERBB4 protein translation by miR-193a-3p resulted in suppressed proliferation and invasion and apoptosis in lung cancer cells. The fluorescinated hsa-miR-193a-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-193b

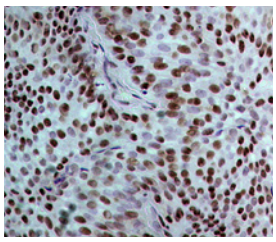


Hsa-miR-193b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM193B-100E
Specificity:	miR-193b
Recommended Barrier Control:	FB-HM193B

Aberrant expression of miR-193b is frequently observed in cancer and it acts as a tumor suppressor in many types of cancers. miR-193b is down-regulated in pancreatic cancer and can promote tumorigenesis by inhibiting stathmin 1 and urokinase-type plasminogen activator (uPA). miR-193b was methylated and thus epigenetically silenced in prostate cancer. Enforced expression of miR-193b can significantly suppress proliferative capacity of prostate cancer cell lines. The fluorescinated hsa-miR-193b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-194

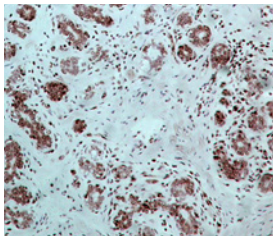


Hsa-miR-194 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM194-100E
Specificity:	miR-194
Recommended Barrier Control:	FB-HM194

miR-194 is expressed in liver parenchymal cells, preventing liver cancer cell metastasis. It is expressed in human gastrointestinal tract. miR-194 may have a role in gastric cancer invasion and progression. miR-194 plays a role in the activation of stellate cells during liver fibrogenesis. miR-194 expression varies in human organs and in different status of hepatocyte differentiation. miR-194 is an epithelial cell-specific marker in the liver and plays a role in EMT and liver cancer metastasis. The fluorescinated hsa-miR-194 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-195

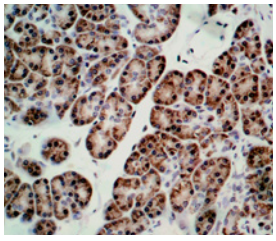


Hsa-miR-195 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM195-100E
Specificity:	miR-195
Recommended Barrier Control:	FB-HM195

miR-195 is aberrantly expressed in multiple types of disease. miR-195 was significantly downregulated in breast cancer. miR-195 plays important inhibitory roles in breast cancer malignancy and may be the potential therapeutic and diagnostic targets. The fluorescinated hsa-miR-195 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-196a

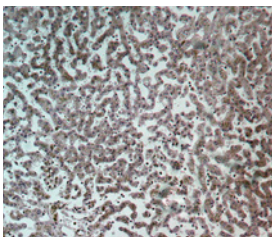


Hsa-miR-196a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM196A-100E
Specificity:	miR-196a
Recommended Barrier Control:	FB-HM196A

miR-196a is a microRNA that suppresses the expression of specific homeobox genes that are of high relevance for the development of human embryos. The fluorescinated hsa-miR-196a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-197

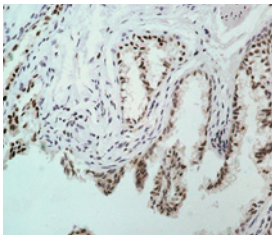


Hsa-miR-197 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM197-100E
Specificity:	miR-197
Recommended Barrier Control:	FB-HM197

miR-197 is an onco-miR which functions as a key repressor of p53-dependent apoptotic cascade in cancer cells. It is known to be up-regulated, specifically in invasive ductal adenocarcinoma (IDA), through induction of epithelial-mesenchymal transition EMT. The fluorescinated hsa-miR-197 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-198

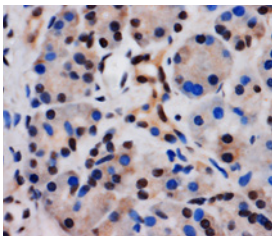


Hsa-miR-198 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM198-100E
Specificity:	miR-198
Recommended Barrier Control:	FB-HM198

It has been reported that several genes can be targeted by miR-198 in different type of cancers and miR-198 has different functions during cancer progression. miR-198 has been shown to be a tumor suppressor in hepatocellular carcinoma, colorectal cancer, prostate cancer and lung cancer by inhibition of tumor cell growth, migration and invasion. The fluorescinated hsa-miR-198 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-199a

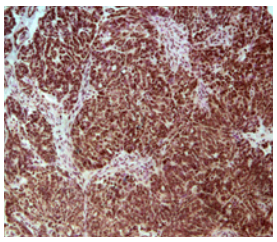


Hsa-miR-199a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM199A-100E
Specificity:	miR-199a
Recommended Barrier Control:	FB-HM199A

miR-199a, which is encoded from the opposite strand of DNM2 (Dynamin 2 is a key component of endocytic machinery that is transcriptionally suppressed by HIF-1), is shown to exert reciprocal negative regulation upon HIF-1α and HIF-2α. The fluorescinated hsa-miR-199a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-200a

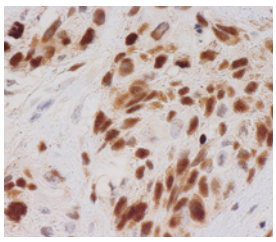


Hsa-miR-200a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM200A-100E
Specificity:	miR-200a
Recommended Barrier Control:	FB-HM200A

Gain and loss of function assays for miR-200a is shown to lead to a significant differential and converse expression of epithelial mesenchymal transition (EMT)-related genes. The fluorescinated hsa-miR-200a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-203a-3p

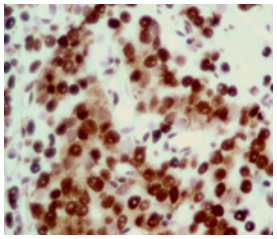


Hsa-miR-203a-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM203A-3p-100E
Specificity:	miR-203a-3p
Recommended Barrier Control:	FB-HM203A-3P

miR-203 is an antiproliferative microRNA involved in skin differentiation that targets the 3'-UTR of the "stemness-maintaining" transcription factor ΔNp63α. The fluorescinated hsa-miR-203a-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-200b

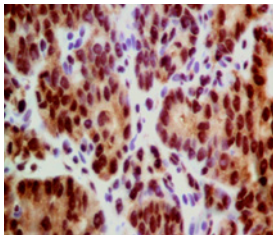


Hsa-miR-200b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM200B-100E
Specificity:	miR-200b
Recommended Barrier Control:	FB-HM200B

miR-200b targets v-ets erythroblastosis virus E26 oncogene homolog 1 (Ets-1) and is down-regulated by hypoxia to induce angiogenic response of endothelial cells. The fluorescinated hsa-miR-200b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-204

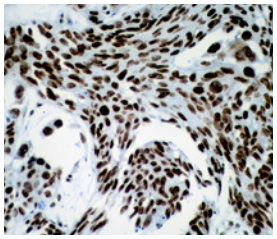


Hsa-miR-204 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM204-100E
Specificity:	miR-204
Recommended Barrier Control:	FB-HM204

miR-204 targeting of the Ankrd13A gene is found to control both nesenchymal neural crest and lens cell migration. The fluorescinated hsa-miR-204 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-200c

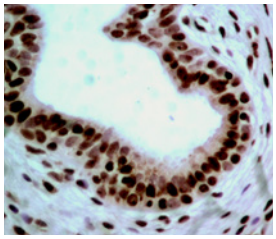


Hsa-miR-200c detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM200C-100E
Specificity:	miR-200c
Recommended Barrier Control:	FB-HM200C

Overexpression of the miR-200c is reported to lead to reduced expression of transcription factor 8 and increased expression of E-Cadherin. The fluorescinated hsa-miR-200c probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-205

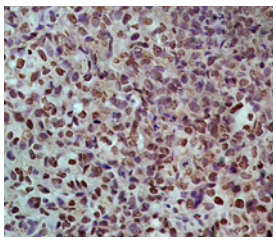


Hsa-miR-205 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM205-100E
Specificity:	miR-205
Recommended Barrier Control:	FB-HM205

miR-205 is capable of suppressing epithelial to mesenchymal transition by targeting the transcriptional factors ZEB1 and SIP1. miR-205 has also been shown to regulate E-Cadherin and possibly target PTEN. The fluorescinated hsa-miR-205 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-206

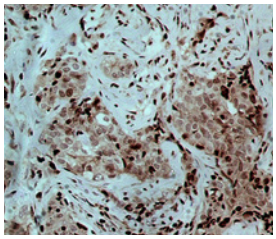


Hsa-miR-206 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM206-100E
Specificity:	miR-206
Recommended Barrier Control:	FB-HM206

miR-206 targets HSP60 leading to accelerated glucose-mediated apoptosis in cardiomyocetes. miR-206 is reported to decrease endogenous ERα mRNA and protein levels in human MCF-7 breast cancer cells . miR-206 could be a novel candidate for endocrine therapy that targets only ERα in breast cancer. The fluorescinated hsa-miR-206 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-210

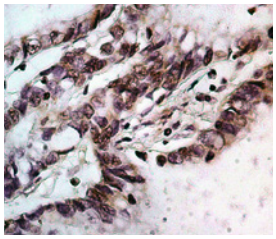


Hsa-miR-210 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM210-100E
Specificity:	miR-210
Recommended Barrier Control:	FB-HM210

miR-210 has been strongly linked with the hypoxia pathway, and is upregulated in response to hypoxia-inducible factors. It is also overexpressed in cells affected by cardiac disease and tumors. miR-210 has been studied for its effects in rescuing cardiac function after myocardial infarcts via the up-regulation of angiogenesis and inhibition of cardiomyocyte apoptosis. The fluorescinated hsa-miR-210 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-211

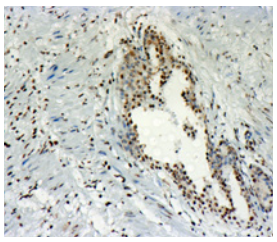


Hsa-miR-211 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM211-100E
Specificity:	miR-211
Recommended Barrier Control:	FB-HM210

miR-211 is localized on intron 6 of the Trpm1 gene at 15q13-q14, a locus that is frequently lost in neoplasms. miR-211 functions and the effect of loss-of-function have been described in normal and cancer cells and tissues. miR-211 is downregulated in melanoma and glioblastoma multiform. In oral carcinoma, miR-211 is upregulated, contributes to progression of oral carcinoma and correlates with poor prognosis in oral carcinoma. The fluorescinated hsa-miR-211 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-212

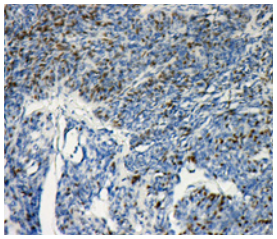


Hsa-miR-212 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM212-100E
Specificity:	miR-212
Recommended Barrier Control:	FB-HM212

miR-212 expression is essential for the proper development, maturation and function of neurons. miR-212 deregulation is associated with several neurological disorders, such as Alzheimer's disease. The fluorescinated hsa-miR-212 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-214

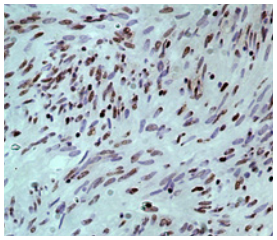


Hsa-miR-214 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM214-100E
Specificity:	miR-214
Recommended Barrier Control:	FB-HM214

miR-214 expression level is associated with metastasis and invasion of cervical tumor. miR-214 could inhibit the proliferation capacity, migration and invasion ability of HeLa cells. Plexin-B1 levels are inversely correlated with miR-214 amounts in both cervical cancer tissues and HeLa cells. Plexin-B1, a target of miR-214, may function as an oncogene in human cervical cancer HeLa cells. The fluorescinated hsa-miR-214 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-215

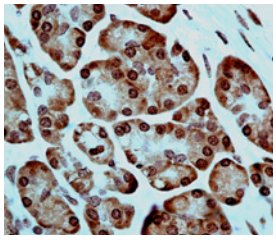


Hsa-miR-215 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM215-100E
Specificity:	miR-215
Recommended Barrier Control:	FB-HM215

miR-215 identified from the microRNA cluster site at chromosome 1q41, has been reported to function as a tumor suppressor in a variety of human cancers by positive regulate p53. miR-215 has a unique potential as a prognostic biomarker in stage II and III colon cancer. miR-215 suppressed the expression of key targets such as thymidylate synthase (TS), dihydrofolate reductase, and denticleless protein homolog (DTL) in colon cancer. The fluorescinated hsa-miR-215 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-216a

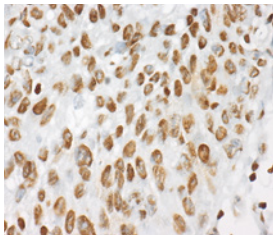


Hsa-miR-216a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM216A-100E
Specificity:	miR-216a
Recommended Barrier Control:	FB-HM216A

It was shown that TGF-β activates Akt in glomerular mesangial cells by inducing the miR-216a and miR-217, both of which target PTEN, an inhibitor of Akt activation. The fluorescinated hsa-miR-216a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-216b

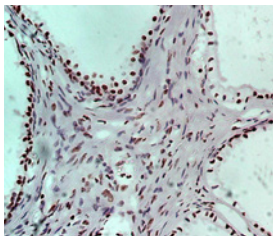


Hsa-miR-216b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM216B-100E
Specificity:	miR-216b
Recommended Barrier Control:	FB-HM216B

miR-216b was identified as a tumor suppressor in many cancers. Forced expression of miR-216b in RInk-1 cells inhibits cell proliferation and colony formation, which is correlated with reduced expression levels of epidermal growth factor receptor and matrix metalloproteinase-14 (MT1-MMP) in pancreatic cancer. Furthermore, miR-216b is dysregulated in bone marrow mesenchymal stem cells, and in colorectal cancer cells. Interestingly, miR-216b is associated with nonalcoholic fatty liver disease. The fluorescinated hsa-miR-216b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-217

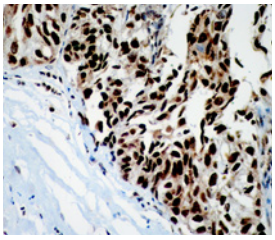


Hsa-miR-217 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM217-100E
Specificity:	miR-217
Recommended Barrier Control:	FB-HM217

miR-217 targets oncogenes or tumor suppressor genes such as KRAS/WASF3 in different cell types by inhibiting tumor cell growth and anchorage-independent colony formation. Overexpression of miR-217 markedly suppressed cell proliferation, migration, and invasion of pancreatic ductal adenocarcinoma and osteosarcoma cells. In lung cancer cells it promoted the apoptosis by targeting KRAS and enhanced cell sensitivity to cisplatin. The fluorescinated hsa-miR-217 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-218

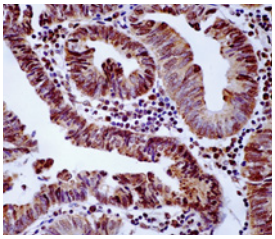


Hsa-miR-218 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM218-100E
Specificity:	miR-218
Recommended Barrier Control:	FB-HM218

miR-218 is reported to be part of a regulatory circuit involving the Slit-Robo1 pathway. Decreased miR-218 levels eliminate Robo1 repression which activates the pathway through the interaction between Robo1 and Slit2. The fluorescinated hsa-miR-218 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-221-3p

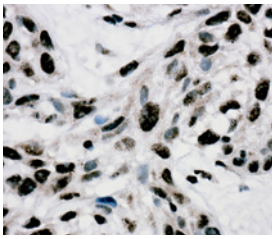


Hsa-miR-221-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM221-3p-100E
Specificity:	miR-221-3p
Recommended Barrier Control:	FB-HM221-3P

miR-221, together with miR-222, is encoded in tandem from a gene cluster located on chromosome X. Both miRNAs have been shown to directly target p27kip1, Bmf, PTEN, Mdm2, PUMA, and TRPS1. The fluorescinated hsa-miR-221-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-222

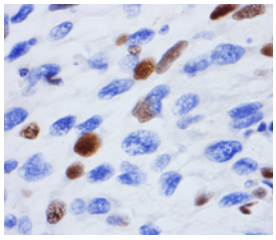


Hsa-miR-222 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM222-100E
Specificity:	miR-222
Recommended Barrier Control:	FB-HM222

miR-222, together with miR-221, is encoded in tandem from a gene cluster located on chromosome X. Both miRNAs have been shown to directly target p27kip1, Bmf, PTEN, Mdm2, PUMA, and TRPS1. The fluorescinated hsa-miR-222 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-223

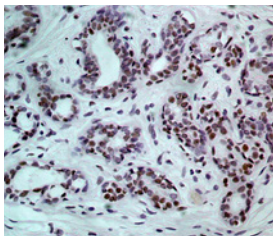


Ready-to-use (Manual):	HM223-100E
Specificity:	miR-223
Recommended Barrier Control:	FB-HM223

Hsa-miR-223 detected in FFPE tissue stained with DAB

miR-223 is a hematopoietic specific microRNA with crucial functions in myeloid lineage development. It plays an essential role in promoting granulocytic differentiation. miR-223 is commonly repressed in hepatocellular carcinoma and leukemia. In some cancers the miR-223 downregulation is correlated with higher tumor burden, disease aggressiveness, and poor prognostic factors. The fluorescinated hsa-miR-223 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-224

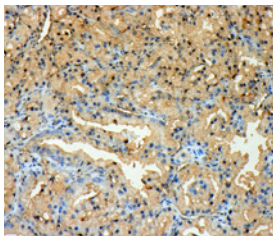


Ready-to-use (Manual):	HM224-100E
Specificity:	miR-224
Recommended Barrier Control:	FB-HM224

Hsa-miR-224 detected in FFPE tissue stained with DAB

miR-224 could play an oncogenic role in the cellular processes of colorectal cancer (CRC) and represent a novel biomarker for tumor relapse of CRC patients. miR-224 has been shown to be upregulated in cervical cancer and pancreatic ductal adenocarcinomas. miR-224 was also involve in the tumorigenesis and development of breast cancer and hepatocellular carcinoma. The fluorescinated hsa-miR-224 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-296

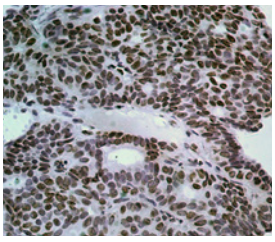


Ready-to-use (Manual):	HM296-100E
Specificity:	miR-296
Recommended Barrier Control:	FB-HM296

Hsa-miR-296 detected in FFPE tissue stained with DAB

miR-296 was found to be located on chromosome 20q13.32, and it was reported that the 20q13.32–13.33 chromosome region is deleted in 20% of prostate cancer patients. In a recent study, it was demonstrated that miR-296 modulates tumor invasiveness by modulating HMGA1 expression in prostate cancer cells. The fluorescinated hsa-miR-296 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-297

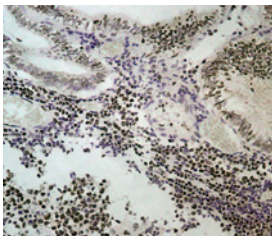


Ready-to-use (Manual):	HM297-100E
Specificity:	miR-297
Recommended Barrier Control:	FB-HM297

Hsa-miR-297 detected in FFPE tissue stained with DAB

miR-297 was downregulated in human colorectal carcinoma tissues and negatively correlated with expression levels of MRP-2. Ectopic expression of miR-297 in MDR colorectal carcinoma cells reduced MRP-2 protein level and sensitized these cells to anti-cancer drugs in vitro and in vivo. The fluorescinated hsa-miR-297 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-300

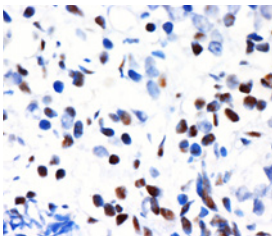


Ready-to-use (Manual):	HM300-100E
Specificity:	miR-300
Recommended Barrier Control:	FB-HM300

Hsa-miR-300 detected in FFPE tissue stained with DAB

miR-300 was upregulated in gastric cancer and breast cancer. miR-300 inhibits epithelial to mesenchymal transition and metastasis by targeting Twist in human epithelial cancer. The fluorescinated hsa-miR-300 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-302b

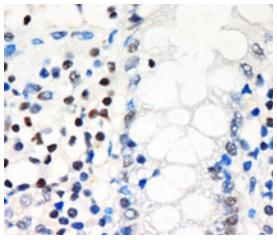


Ready-to-use (Manual):	HM302b-100E
Specificity:	miR-302b
Recommended Barrier Control:	FB-HM302b

Hsa-miR-302b detected in FFPE tissue stained with DAB

miRNA-302b is located in 11q13.4 and has anti-oncogenic and antimetastatic activity in humans. miR-302b may be the candidate to serve as promising biomarkers with sufficient sensitivity and specificity for the diagnosis of cancer in a clinical setting. The fluorescinated hsa-miR-302b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-326

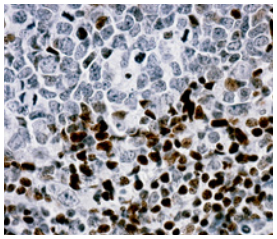


Hsa-miR-326 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM326-100E
Specificity:	miR-326
Recommended Barrier Control:	FB-HM326

miR-326 is localized in the intron 1 of Arrb1 gene, and a well-known downstream component of Hedgehog signaling in cerebellar neuronal progenitor and tumor cells. miR-326 is also involved in Th-17 cells differentiation and progress of multiple sclerosis disease. The fluorescinated hsa-miR-326 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-328

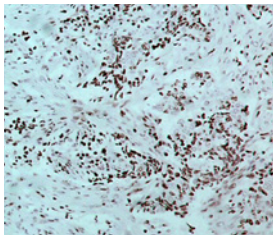


Hsa-miR-328 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM328-100E
Specificity:	miR-328
Recommended Barrier Control:	FB-HM328

A study shows that miR-328 regulates zonation morphogenesis by targeting expression of hyaluronan receptor CD44. The fluorescinated hsa-miR-328 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-329

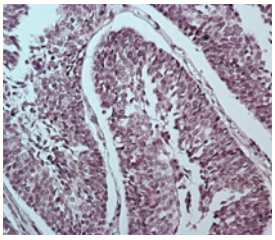


Hsa-miR-329 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM329-100E
Specificity:	miR-329
Recommended Barrier Control:	FB-HM329

miR-329 functions as a tumor suppressor in some malignancies. miR-329 was decreased in metastatic tumor tissues compared with primary tumor tissues. Overexpression of miR-329 substantially suppressed cell proliferation, colony formation, migration and invasion of neuroblastoma cells. The fluorescinated hsa-miR-329 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-330

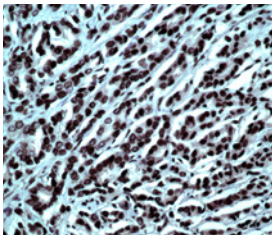


Hsa-miR-330 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM330-100E
Specificity:	miR-330
Recommended Barrier Control:	FB-HM330

The expression of miR-330 in glioblastoma cells enhanced cellular proliferation, promoted cell migration and invasion, and dampened cell apoptosis. The fluorescinated hsa-miR-330 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-331-3p

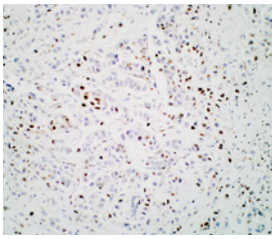


Hsa-miR-331-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM331-3P-100E
Specificity:	miR-331-3p
Recommended Barrier Control:	FB-HM331-3P

miR-331-3p expression is decreased in prostate cancer tissue comparing to normal adjacent prostate tissue. miR-331-3p transfection blocked the androgen receptor signaling pathway in prostate cancer cells, reducing activity of an androgen stimulated prostate-specific antigen promoter and blocking prostate specific antigen expression, suggesting that miR-331-3p has the capacity to regulate signaling pathways critical to the development and progression of prostate cancer cells. The fluorescinated hsa-miR-331-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-335

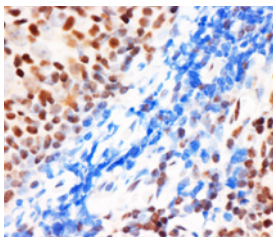


Hsa-miR-335 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM335-100E
Specificity:	miR-335
Recommended Barrier Control:	FB-HM335

Differential microRNA expression analyses reveal that miR-335 is significantly down-regulated upon differentiation of human mesenchymal stem cells. The fluorescinated hsa-miR-335 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-337

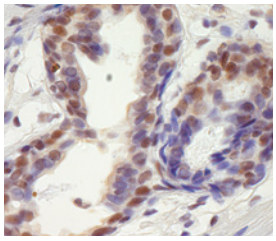


Ready-to-use (Manual):	HM337-100E
Specificity:	miR-337
Recommended Barrier Control:	FB-HM337

Hsa-miR-337 detected in FFPE tissue stained with DAB

Many studies have shown miR-337 to be involved in tumor cell proliferation, migration, and invasion5. Its expression was found to be related to the tumor prognosis in some patients. One recent study showed miR-337 was minimally expressed in pancreatic ductal adenocarcinoma (PDAC) tissues, and its level was related to TNM stage, lymph node status, and survival in PDAC patients, which suggested that miR-337 could be used as determinants of PDAC patient prognosis. The fluorescinated hsa-miR-337 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-338-3p

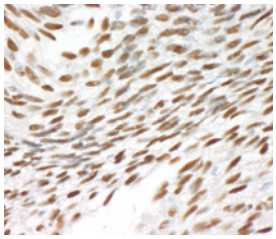


Ready-to-use (Manual):	HM338-3P-100E
Specificity:	miR-338-3p
Recommended Barrier Control:	FB-HM338-3P

Hsa-miR-338-3p detected in FFPE tissue stained with DAB

miR-338-3p was transcribed from the intron 8 of apoptosis-associated tyrosine kinase (AATK) gene, located on chromosome 17q25, playing a critical role in promoting cell death, neuronal differentiation and neurite extension. miR-338-3p could act as a tumor suppressor in types of cancers, including non-small cell lung cancer, neuroblastoma, hepatocellular carcinoma and gastric cancer. The fluorescinated hsa-miR-338-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-339-5p

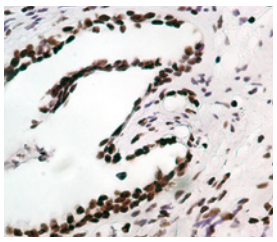


Ready-to-use (Manual):	HM339-5P-100E
Specificity:	miR-339-5p
Recommended Barrier Control:	FB-HM339-5P

Hsa-miR-339-5p detected in FFPE tissue stained with DAB

miR-339-5p targets BCL-6 and dramatically inhibited breast cancer cell migration and invasion in vitro. In addition, it has been reported that Dicer-regulated miR-339-5p promotes resistance of cancer cells to cytotoxic T-lymphocytes by down-regulation of ICAM-1. The fluorescinated hsa-miR-339-5p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-342-3p

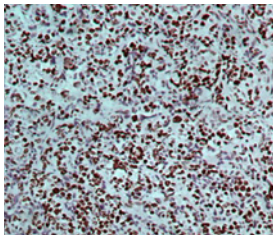


Ready-to-use (Manual):	HM342-3P-100E
Specificity:	miR-342-3p
Recommended Barrier Control:	FB-HM342-3P

Hsa-miR-342-3p detected in FFPE tissue stained with DAB

The level of miR-342-3p was significantly increased in colon cancer, and was inversely associated with the prognosis of patients with colon cancer. The fluorescinated hsa-miR-342-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-361

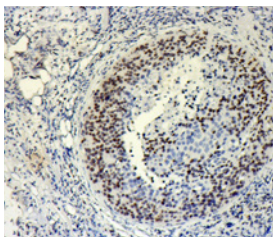


Ready-to-use (Manual):	HM361-100E
Specificity:	miR-361
Recommended Barrier Control:	FB-HM361

Hsa-miR-361 detected in FFPE tissue stained with DAB

miR-361 was significantly downregulated in serum of lung cancer patients. The level of miR-361 was lower in non-small cell lung cancer than in benign disease and healthy individuals. The fluorescinated hsa-miR-361 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-362

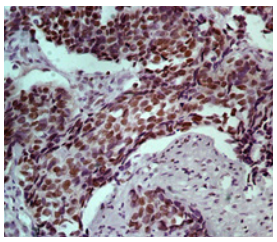


Ready-to-use (Manual):	HM362-100E
Specificity:	miR-362
Recommended Barrier Control:	FB-HM362

Hsa-miR-362 detected in FFPE tissue stained with DAB

miR-362 is significantly up-regulated in hepatocellular carcinoma (HCC) and associated with HCC progression. Inhibition of miR-362 in HCC cells dramatically decrease the cell proliferation, clonogenicity, migration and invasion in vitro as well as tumor growth and metastasis in vivo. miR-362 expression is also elevated in gastric cancer. The fluorescinated hsa-miR-362 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-365a-3p

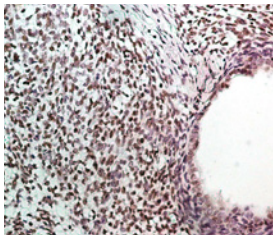


Hsa-miR-365a-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM365A-3P-100E
Specificity:	miR-365a-3p
Recommended Barrier Control:	FB-HM365A-3P

miR-365 is a direct negative regulator of IL-6. Ectopic expression of a miR-365 inhibitor elevated IL-6 expression. The negative regulation of miR-365 was strictly dependent on a microRNA binding element in the 3'-UTR of IL-6 mRNA. The fluorescinated hsa-miR-365a-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-372

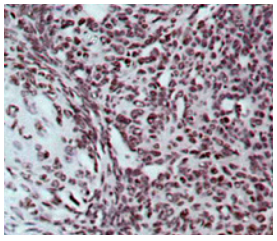


Hsa-miR-372 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM372-100E
Specificity:	miR-372
Recommended Barrier Control:	FB-HM372

miR-372 belongs to the miR-371-372 gene cluster, which is located on chromosome 19q13.42. Recent studies demonstrated that miR-372 regulates the cell cycle, apoptosis, invasion, and proliferation in many types of human cancers. The fluorescinated hsa-miR-372 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-373

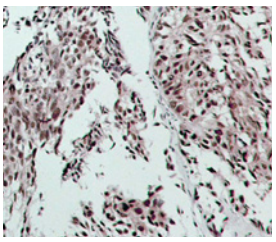


Hsa-miR-373 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM373-100E
Specificity:	miR-373
Recommended Barrier Control:	FB-HM373

miR-373 stimulated cancer cell migration and invasion in vitro and in vivo. Certain cancer cell lines depend on endogenous miR-373 activity to migrate efficiently. miR-373 is highly expressed in clinical breast cancer metastasis. The fluorescinated hsa-miR-373 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-374a

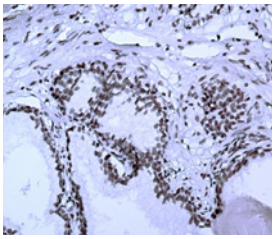


Hsa-miR-374a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM374A-100E
Specificity:	miR-374a
Recommended Barrier Control:	FB-HM374A

miR-374a was overexpressed in the osteosarcoma and colon cancer. Besides, miR-374a was involved in the tumor genesis and metastasis of breast cancer by regulating the Wnt/catenin pathway. miR-374a was upregulated in cisplatin-resistant ovarian cancer cells, and decreasing its expression could make the cells more sensitive to cisplatin, while upregulating its expression in A2780s had the opposite effect. The fluorescinated hsa-miR-374a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-374b

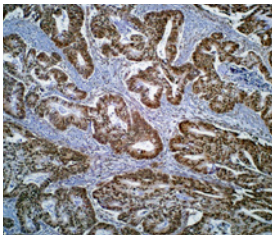


Hsa-miR-374b detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM374B-100E
Specificity:	miR-374b
Recommended Barrier Control:	FB-HM374B

miR-374b is downregulated in prostate cancer tissue and is an independent predictor of biochemical recurrence-free survival. miR-374b is also downregulated in colorectal cancer tissue. The fluorescinated hsa-miR-374b probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-375

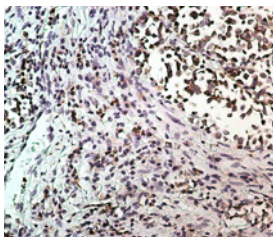


Hsa-miR-375 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM375-100E
Specificity:	miR-375
Recommended Barrier Control:	FB-HM375

It has been shown that overexpression of miR-375 down-regulates while knockdown of miR-375 up-regulates CLDN1 mRNA and protein, respectively. The fluorescinated hsa-miR-375 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-376c

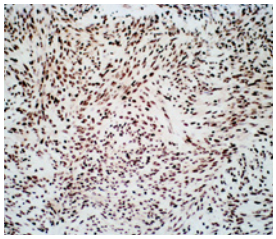


Hsa-miR-376c detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM376C-100E
Specificity:	miR-376c
Recommended Barrier Control:	FB-HM376C

miR-376c was found to have potential complementary binding sites on the 3′UTR of ALK7 mRNA. miR-376c belongs to an evolutionary conserved miRNA family which also includes miR-376a, miR-376a* and miR-376b, and these genes are found in a syntenic cluster on human chromosome 14. miR-376c was reported to be upregulated in a subset of acute myeloid leukaemia specimens. The fluorescinated hsa-miR-376c probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-378a

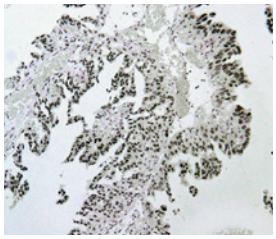


Hsa-miR-378a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM378A-100E
Specificity:	miR-378a
Recommended Barrier Control:	FB-HM378A

miRNA-378 promotes cell survival and angiogenesis by targeting SuFu and Fus-1 expression. The fluorescinated hsa-miR-378a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-379

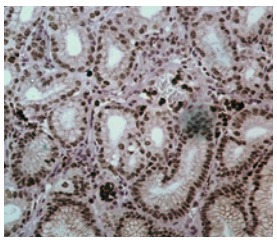


Hsa-miR-379 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM379-100E
Specificity:	miR-379
Recommended Barrier Control:	FB-HM379

miR-379, is located on chromosome 14q32, 31. In the context of breast cancer, miR-379 regulates interleukin-11 (IL-11) production in breast cancer cell line. miR-379 in decreased in breast cancer, and regulates Cyclin B1, which is known to be up-regulated and associated with poor patient outcome. The fluorescinated hsa-miR-379 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-381

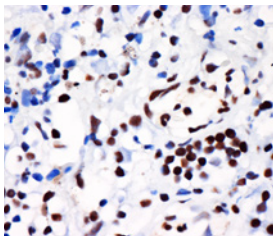


Hsa-miR-381 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM381-100E
Specificity:	miR-381
Recommended Barrier Control:	FB-HM381

Recent functional studies have demonstrated that miR-381 serves as a tumor suppressor and is associated with radio-sensitivity in cancer cells. Overexpression of miRNA-381 confers increased radio-sensitivity of esophageal squamous cell carcinoma (ESCC) cells, promotes nonaggressive phenotype, and growth inhibition in radio-resistant ESCC and lung adenocarcinoma cells. miRNA-381 exerts its biological functions through the regulation of various target genes, such as MITF, LRRC4, ID1, MDR1, BRD7, and WEE1. The fluorescinated hsa-miR-381 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-382

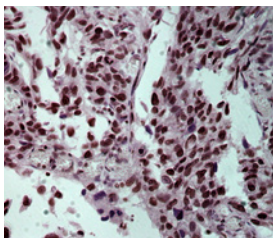


Hsa-miR-382 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM382-100E
Specificity:	miR-382
Recommended Barrier Control:	FB-HM382

miR-382 has been found to have a decreased expression and the ability to suppress tumorigenesis in colorectal cancer and lung cancer. Moreover, the expression levels of miR-382 is purposed to be associated with last-stage and tumor metastasis in NSCLC patients. The fluorescinated hsa-miR-382 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-383

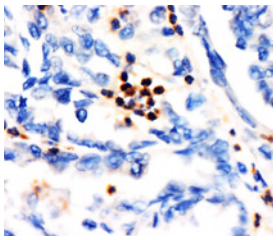


Hsa-miR-383 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM383-100E
Specificity:	miR-383
Recommended Barrier Control:	FB-HM383

Downregulation of miR-383 promotes glioma cell invasion by targeting IGF1R. miR-383 promoted the expression of miR-320 and enhanced miR-320-mediated suppression of granulosa cell (GC) proliferation. miR-383 was up-regulated in the follicular fluid of polycystic ovarian syndrome (PCOS) patients, while the expression of E2F1 and SF-1 was down-regulated in GCs. The fluorescinated hsa-miR-383 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-384

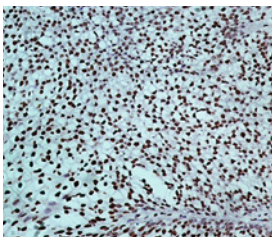


Hsa-miR-384 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM384-100E
Specificity:	miR-384
Recommended Barrier Control:	FB-HM384

miR-384 is a brain-enriched miRNA, highly expressed in hippocampus and downregulated in glioma tissues and glioma cell lines. The fluorescinated hsa-miR-384 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-412

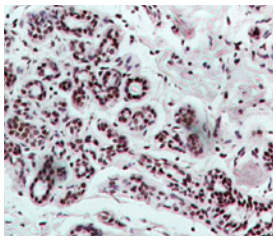


Hsa-miR-412 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM412-100E
Specificity:	miR-412
Recommended Barrier Control:	FB-HM412

miR-412 was observed to be upregulated in the squamous cell lung carcinoma tissues compared with normal tissues. mRNA bound to the AGO2 complex (RIP-Chip) identified a set of miR-412 target genes that are involved in neuronal cell death processes. The fluorescinated hsa-miR-412 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-409-3p

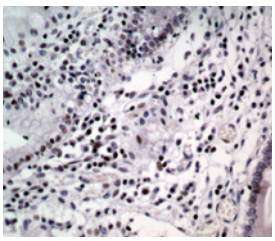


Hsa-miR-409-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM409-3P-100E
Specificity:	miR-409-3p
Recommended Barrier Control:	FB-HM409-3P

miR-409-3p was significantly downregulated in gastric cancer (GC) cell lines and tissues. Overexpression of miR-409-3p in SGC-7901 gastric cancer cells dramatically suppressed cell proliferation and induced cell apoptosis both in vitro and in vivo. The transcriptional regulator PHF10 was a target of miR-409-3p. The fluorescinated hsa-miR-409-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-422a

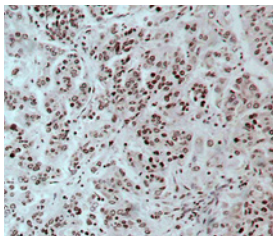


Hsa-miR-422a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM422A-100E
Specificity:	miR-422a
Recommended Barrier Control:	FB-HM422A

miR-422a plays a protective role in colorectal cancers where significantly reduced expression has been observed in colorectal cancers and laryngeal carcinomas when compared to the normal tissue counterparts. miR-422a also inhibits pathways that stimulate tumor cell proliferation in osteosarcomas. Gastric cancer cells treated with the anti-diabetic drug metmorphin showed downregulation of miR-422a. Relapse associated miR-422a expression has been documented in gastric cancer patients following S1 adjuvant chemotherapy. The fluorescinated hsa-miR-422a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-410

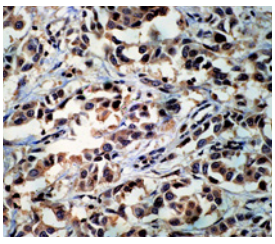


Hsa-miR-410 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM410-100E
Specificity:	miR-410
Recommended Barrier Control:	FB-HM410

miR-410 was significantly downregulated in the neuroblastoma. The expression of miR-410 was inversely associated with MET in human glioma tissues. Restoring expression of miR-410 led to proliferation inhibition and reduced invasive capability in glioma cells. miR-410 plays an important role in regulating MET-induced AKT signal transduction in glioma. The fluorescinated hsa-miR-410 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-423-3p

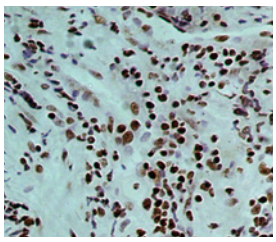


Hsa-miR-423-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM423-3P-100E
Specificity:	miR-423-3p
Recommended Barrier Control:	FB-HM423-3P

miR-423 is located on chromosome 17 and lies within the first intron of the gene nuclear speckle splicing regulatory protein (NSRP1) which is involved in alternate splicing of mRNAs. The fluorescinated hsa-miR-423-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-424

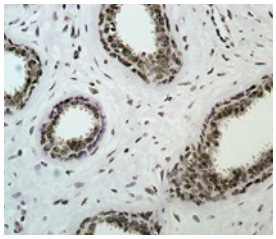


Ready-to-use (Manual):	HM424-100E
Specificity:	miR-424
Recommended Barrier Control:	FB-HM424

Hsa-miR-424 detected in FFPE tissue stained with DAB

Hypoxia induces miR-424 expression and that miR-424 in turn suppresses the level of PDCD4 protein, a tumor suppressor .The inhibition of miR-424 enhanced apoptosis and increased the sensitivity of cancer cells. miR-424 levels are inversely correlated with PDCD4 expression in clinical breast cancer samples. The fluorescinated hsa-miR-424 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-425

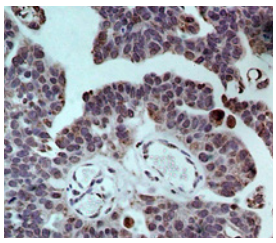


Ready-to-use (Manual):	HM425-100E
Specificity:	miR-425
Recommended Barrier Control:	FB-HM425

Hsa-miR-425 detected in FFPE tissue stained with DAB

miR-425 has been identified as a potential biomarker in renal cell carcinoma, lung squamous cell carcinoma, breast cancer and bladder cancer. An up-regulation of circulating miR-425 has been observed in head and neck cancer patients after radiotherapy in the blood plasma compared with primary HNSCC (head and neck squamous cell carcinoma) cells. It has also been found to be up-regulated after chemotherapy in esophageal cancer. In addition, miR-425 has been reported to promote tumorigenicity and aggressiveness in breast cancer and gastric cancer. The fluorescinated hsa-miR-425 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-429

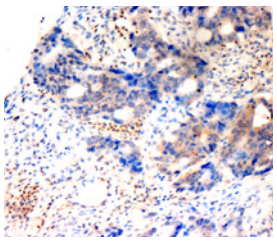


Ready-to-use (Manual):	HM429-100E
Specificity:	miR-429
Recommended Barrier Control:	FB-HM429

Hsa-miR-429 detected in FFPE tissue stained with DAB

miR-429, a member of the miR-200 family of microRNAs, was significantly downregulated in colorectal carcinoma (CRC) tissues and cell lines. miR-429 inhibited the proliferation and growth of CRC cells in vitro and in vivo. Downregulation of miR-429 may contribute to carcinogenesis and the initiation of epithelial–mesenchymal transition (EMT) of CRC by targeting Onecut2. The fluorescinated hsa-miR-429 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-433

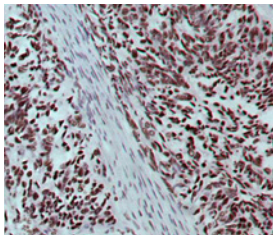


Ready-to-use (Manual):	HM433-100E
Specificity:	miR-433
Recommended Barrier Control:	FB-HM433

Hsa-miR-433 detected in FFPE tissue stained with DAB

miR-433 has been reported to be dysregulated in several malignancies, including ovarian cancer, liver cancer and colorectal cancer. miR-433 is also highly expressed in brain, variation in the miRNA-433 binding site of FGF20 confers risk for Parkinson disease. The fluorescinated hsa-miR-433 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-449a

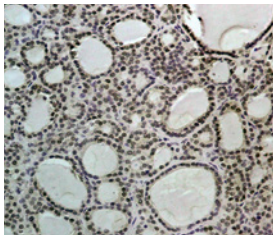


Ready-to-use (Manual):	HM449A-100E
Specificity:	miR-449a
Recommended Barrier Control:	FB-HM449A

Hsa-miR-449a detected in FFPE tissue stained with DAB

miR-449a is downregulated in human prostate cancer tissue and possesses potential tumor suppressor function. miR-449a-mediated growth arrest in prostate cancer cells is dependent on the Rb protein. The fluorescinated hsa-miR-449a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-450b-3p

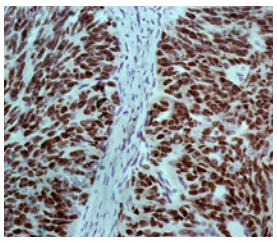


Ready-to-use (Manual):	HM450B-3P-100E
Specificity:	miR-450b-3p
Recommended Barrier Control:	FB-HM450B-3P

Hsa-miR-450b-3p detected in FFPE tissue stained with DAB

miR-450b-3p inhibits HER3 expression and represses the downstream signal transductions of HER family in breast cancer. Overexpression of miR-450b-3p inhibits breast cancer cells clonogenic potential and enhances their sensitivity to trastuzumab, a monoclonal antibody that binds to the HER2 receptor, or doxorubicin through repressing proliferative signal pathways mediated by HER3/HER2/PI3K/AKT. The fluorescinated hsa-miR-450b-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-451

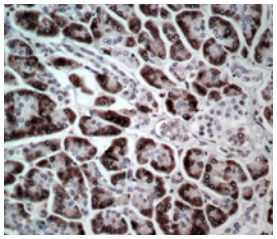


Hsa-miR-451 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM451-100E
Specificity:	miR-451
Recommended Barrier Control:	FB-HM451

miR-451 gene is located on chromosome 17 at 17q11.2. miR-451 regulates the drug-transporter protein P-glycoprotein, potentially promoting resistance to the chemotherapy drug Paclitaxel. miRNA-451 is widely dysregulated in human cancers and plays a critical role in tumorigenesis and tumor progression. The fluorescinated hsa-miR-451 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-483

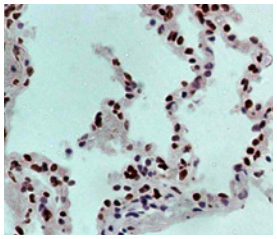


Hsa-miR-483 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM483-100E
Specificity:	miR-483
Recommended Barrier Control:	FB-HM483

miR-483 is located within intron 2 of the IGF2 locus. miR-483 identifies a subset of poorer prognosis adrenocortical carcinomas. The expression level of miR-483 alone can accurately diagnose a tumor as benign or malignant. miR-483 is overexpressed in adenocortical carcinomas compared with adenocortical adenoma. miR-483 also highly expressed in colon, breast and liver cancer. The fluorescinated hsa-miR-483 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-486

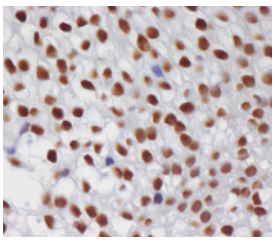


Hsa-miR-486 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM486-100E
Specificity:	miR-486
Recommended Barrier Control:	FB-HM486

miR-486 plays a tumor-suppressor role. miR-486 is located at Chromosome 8p11, a region of frequent genomic loss in multiple cancers. miR-486 is significantly downregulated in gastric cancer. miR-486 inactivation is required for the expression of several pro-oncogenic traits, and that this is likely mediated through miR-486 targeting the OLFM4 antiapoptotic factor. The fluorescinated hsa-miR-486 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-486-3p

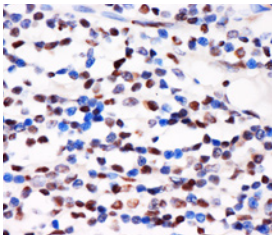


Hsa-miR-486-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM486-3P-100E
Specificity:	miR-486-3p
Recommended Barrier Control:	FB-HM486-3P

miR-486-3p dysregulation was observed in pancreas and esophageal cancer. Overexpression of miR-486-3p resulted in a moderate decrease of mature erythroid cells, indicating a possible inhibitory effect on erythropoiesis. The fluorescinated hsa-miR-486-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-489

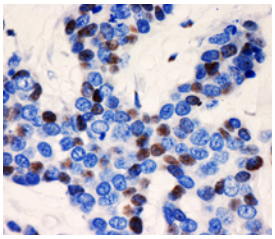


Hsa-miR-489 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM489-100E
Specificity:	miR-489
Recommended Barrier Control:	FB-HM489

miR-489 has been reported to mediate chemoresistance in ovarian cancer and breast cancer. Akt3 and Smad3 could be the downstream target of miR-489. The fluorescinated hsa-miR-489 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-491

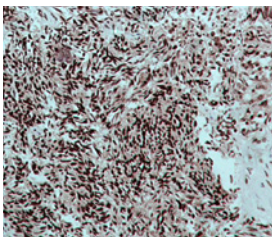


Hsa-miR-491 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM491-100E
Specificity:	miR-491
Recommended Barrier Control:	FB-HM491

miR-491-5p is located in the fourth intron of FOCAD, it has been reported to be involved in several cancer types. miR-491-5p can act as a tumor suppressor by targeting JMJD2B in breast cancer, or targeting TRIM28 in glioma. The fluorescinated hsa-miR-491 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-494

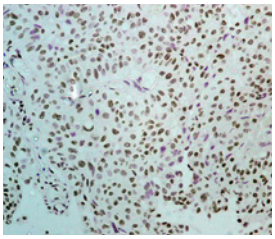


Hsa-miR-494 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM494-100E
Specificity:	miR-494
Recommended Barrier Control:	FB-HM494

miR-494 regulates the expression of phosphatase and tensin homolog (PTEN) post-transcriptionally and functions as a micro-oncogene in carcinogenesis induced by anti-BPDE. The fluorescinated hsa-miR-494 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-495

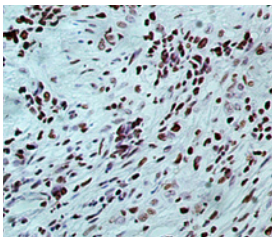


Hsa-miR-495 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM495-100E
Specificity:	miR-495
Recommended Barrier Control:	FB-HM495

miR-495 was dramatically decreased in breast cancer cell lines and ectopic expression of miR-495 drastically retarded the proliferation and tumorigenicity in in vitro and in vivo assays, suggesting that downregulation of miR-495 may associate with features of breast cancer and that it functions as an antimir. Consistent with present findings in breast cancer, the expression level of miR-495 is downregulated in gastric cancer, prostate cancer, and non-small cell lung cancer. The fluorescinated hsa-miR-495 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-497

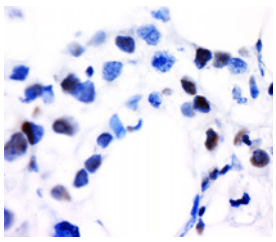


Hsa-miR-497 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM497-100E
Specificity:	miR-497
Recommended Barrier Control:	FB-HM497

miR-497 locates at 17p13.1, and is frequently deleted in human cancers. miR-497 showed significant growth-suppressive activity with induction of G1 arrest. miR-497 overexpression led to the aberrant cell proliferation in hepatocarcinogenesis. The fluorescinated hsa-miR-497 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-498

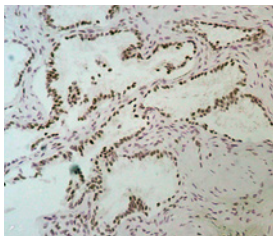


Hsa-miR-498 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM498-100E
Specificity:	miR-498
Recommended Barrier Control:	FB-HM498

miR-498 is downregulated and correlated with non-small cell lung cancer progression, which might be a putative prognostic biomarker or therapeutic target in NSCLC treatment. The fluorescinated hsa-miR-498 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-502

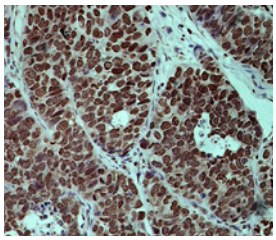


Hsa-miR-502 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM502-100E
Specificity:	miR-502
Recommended Barrier Control:	FB-HM502

The expression of miR-502 was downregulated in colon cancer patient specimens compared with the paired normal control samples. The fluorescinated hsa-miR-502 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-505

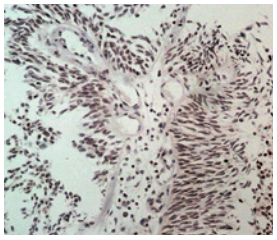


Hsa-miR-505 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM505-100E
Specificity:	miR-505
Recommended Barrier Control:	FB-HM505

miR-505 functions as a tumor suppressive microRNA. FGF18, a proangiogenic factor, is directly regulated by miR-505. miR-505 inhibits cell proliferation by inducing apoptosis. The fluorescinated hsa-miR-505 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-508-3p

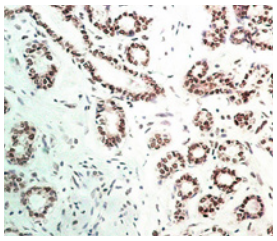


Hsa-miR-508-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM508-3P-100E
Specificity:	miR-508-3p
Recommended Barrier Control:	FB-HM508-3p

miR-508-3p (member of the miR-506 family) is located on Xq27.3, which is a fragile site of the human X chromosome. The very limited reports about miR-508-3p are controversial according to different cancer types. In renal cell carcinoma, the level of miR-508-3p demonstrated significant decreased expression. In esophageal squamous cell carcinoma, the elevated miR-508-3p correlates with poor survival. miR-508-3p played tumor suppressor potential roles in gastric tumorigenesis. The fluorescinated hsa-miR-508-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-509-3p

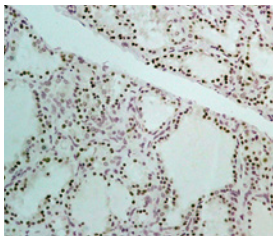


Hsa-miR-509-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM509-3P-100E
Specificity:	miR-509-3p
Recommended Barrier Control:	FB-HM509-3P

It was reported that miR-509-3p may function as a tumor suppressor in renal cancer. The expression level of miR-509-3p is lower in renal cancer than in the adjacent normal tissues and ectopic expression of miR-509-3p inhibits renal cell growth and migration. The fluorescinated hsa-miR-509-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-510

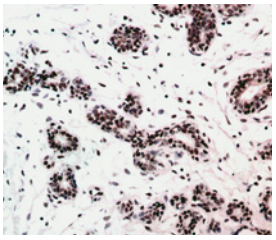


Hsa-miR-510 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM510-100E
Specificity:	miR-510
Recommended Barrier Control:	FB-HM510

miR-510, is elevated in breast tumor samples while absent in the matched non-tumor breast tissue samples. The fluorescinated hsa-miR-510 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-511

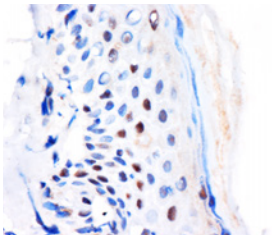


Hsa-miR-511 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM511-100E
Specificity:	miR-511
Recommended Barrier Control:	FB-HM511

3′-UTRs of TLR4 I and TLR4 II were miR-511 target sites and that miR-511 knockdown enhanced TLR4 protein levels in differentiating dendritic cells. Downregulation of miR-511 expression was found in ovarian tumor tissues. The fluorescinated hsa-miR-511 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-514a

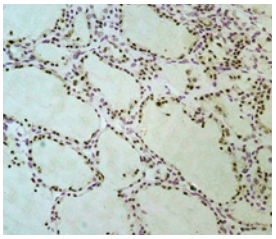


Hsa-miR-514a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM514a-100E
Specificity:	miR-514a
Recommended Barrier Control:	FB-HM514a

miR-514a is a member of a cluster of miRNAs on chrXq27.3 that has been implicated in the malignant transformation of melanocytes and tumor progression. However, in ovarian carcinoma, this miRNA cluster has been demonstrated as a tumor suppressor. The fluorescinated hsa-miR-514a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-517a-3p

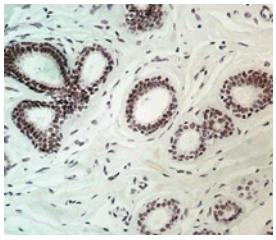


Hsa-miR-517a-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM517A-3P-100E
Specificity:	miR-517a-3p
Recommended Barrier Control:	FB-HM517A-3P

miR-517a-3p was differentially expressed in lung cancer 95D and 95C cell lines that have different metastatic potential. Manipulation of miR-517a-3p expression changed lung cancer cell proliferation, migration and invasion capacity. MiR-517a-3p directly regulated FOXJ3 expression by binding to FOXJ3 promoter. The fluorescinated hsa-miR-517a-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-520C

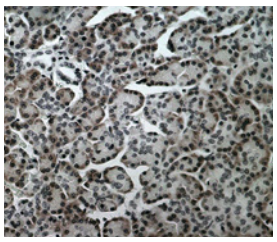


Hsa-miR-520c detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM520C-100E
Specificity:	miR-520c
Recommended Barrier Control:	FB-HM520C

miR-520c is an important miRNA and has been characterized as oncogenes. In breast and prostate cancer cells, miR-520c stimulated cancer cell migration and invasion by suppressing the expression of CD44. The fluorescinated hsa-miR-520c probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-541

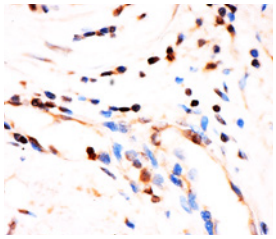


Hsa-miR-541 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM541-100E
Specificity:	miR-541
Recommended Barrier Control:	FB-HM541

miR-541 was significantly differentially expressed between sporadic benign and von Hippel-Lindau-related pheochromocytomas. miR-541 directly regulates HER2 expression in breast cancer. The fluorescinated hsa-miR-541 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-524

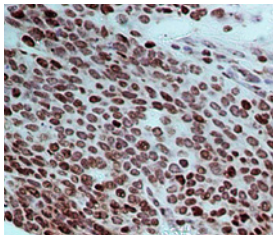


Hsa-miR-524 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM524-100E
Specificity:	miR-524
Recommended Barrier Control:	FB-HM524

miR-524 targets both BRAF and ERK2 genes, the key regulators of the MAPK pathway, and affect melanoma cell migration and proliferation. miR-524 is also a brain-enriched miRNA, which is associated with the pathological grade and overall survival of gliomas. The fluorescinated hsa-miR-524 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-544

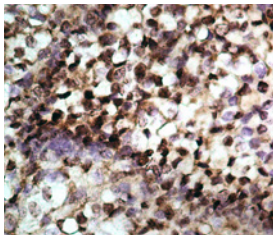


Hsa-miR-544 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM544-100E
Specificity:	miR-544
Recommended Barrier Control:	FB-HM544

miR-544 exhibited a progression-associated downregulation in glioma tumors. The levels of miR-544 in serum samples tended to be lower in anaplastic and glioblastoma patients compared with low-grade gliomas. The fluorescinated hsa-miR-544 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-532-5p

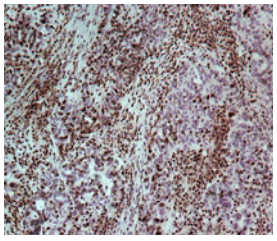


Hsa-miR-532-5p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM532-5P-100E
Specificity:	miR-532-5p
Recommended Barrier Control:	FB-HM532-5P

miR-532-5p was differentially expressed in lung cancer 95D and 95C cell lines that have different metastatic potential. Manipulation of miR-532-5p expression changed lung cancer cell proliferation, migration and invasion capacity. MiR-532-5p directly regulated FOXJ3 expression by binding to FOXJ3 promoter. The fluorescinated hsa-miR-532-5p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-545-5p

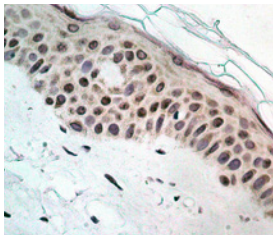


Hsa-miR-545-5p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM545-5p-100E
Specificity:	miR-545-5p
Recommended Barrier Control:	FB-HM545-5P

Low miR-545 levels in pancreatic ductal adenocarcinoma (PDAC) promote tumor cells growth, and are associated with reduced survival in PDAC patients. miR-545 was less abundant in cancerous lung tissues than in adjacent non-cancerous tissues. miR-545 inhibits the proliferation of lung cancer cells both in vitro and in vivo. The fluorescinated hsa-miR-545-5p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-573

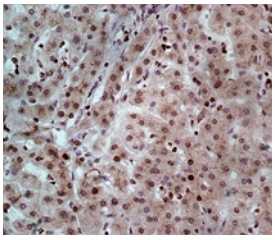


Hsa-miR-573 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM573-100E
Specificity:	miR-573
Recommended Barrier Control:	FB-HM573

miR-573 has been reported to act as a tumor suppressor gene in melanoma, gastric, prostate and breast cancer. The fluorescinated hsa-miR-573 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-610

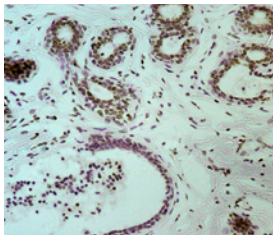


Hsa-miR-610 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM610-100E
Specificity:	miR-610
Recommended Barrier Control:	FB-HM610

miR-610 which were downregulated in gastric cancer and may be exploited for therapeutic intervention to inhibit gastric cancer progression and metastasis. miR-610 suppresses lung cancer cell proliferation. miR-610 downregulation plays essential roles in hepatocellular carcinoma progression. The fluorescinated hsa-miR-610 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-574-3p

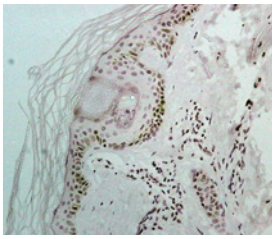


Hsa-miR-574-3p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM574-3P-100E
Specificity:	miR-574-3p
Recommended Barrier Control:	FB-HM574-3p

miR-574-3p was downregulated in clinical breast cancer tissues, and knockdown of endogenous miR-574-3p abrogated the tamoxifen-mediated growth suppression of MCF-7 cells. The fluorescinated hsa-miR-574-3p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-614

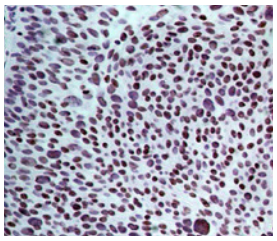


Hsa-miR-614 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM614-100E
Specificity:	miR-614
Recommended Barrier Control:	FB-HM614

miR-614 has been reported to be differentially expressed between pancreatic and ampullary adenocarcinomas. miR-614 inhibited lung cancer cells invasion and proliferation. The fluorescinated hsa-miR-614 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-590

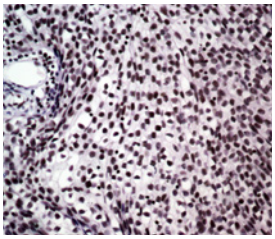


Hsa-miR-590 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM590-100E
Specificity:	miR-590
Recommended Barrier Control:	FB-HM590

Downregulation of miR-590 by nicotine has been found to play a key part in the generation of atrial fibrosis by atrial structural remodeling. Expression of miR-590 was downregulated in a number of hepatocellular carcinoma cell lines. The down-regulation of miR-590-5P may result in the dysregulation of its target genes. The fluorescinated hsa-miR-590 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-615

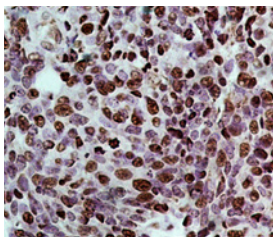


Hsa-miR-615 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM615-100E
Specificity:	miR-615
Recommended Barrier Control:	FB-HM615

Expression of microRNA miR-615 is reported in various cancers like hepatocellular carcinoma (HCC), colon cancer, and prostate cancer. The ectopic expression of miR-615 reduced the cell growth and migration. Similar results of its tumor suppressing activity are also reported in pancreatic ductal adenocarcinoma. Expression of miR-615 is epigenetically activated by DNA methylation in prostate cancer cells. The fluorescinated hsa-miR-615 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-622

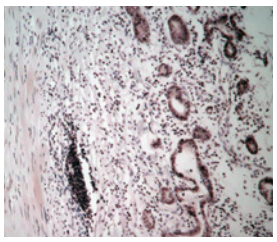


Hsa-miR-622 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM622-100E
Specificity:	miR-622
Recommended Barrier Control:	FB-HM622

Expression of miR-622 is downregulated in gastric cancer. miR-622 was found involved in differentiation and lymphatic metastasis in human gastric cancer. Ectopic expression of miR-622 promotes invasion, tumorigenesis and metastasis of gastric cancer cells both in vitro and in vivo. miR-622 is significantly downregulated in glioma tissues and cell lines. The fluorescinated hsa-miR-622 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-628

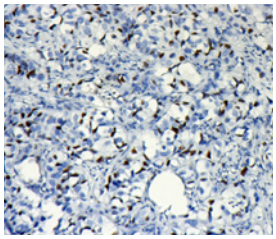


Hsa-miR-628 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM628-100E
Specificity:	miR-628
Recommended Barrier Control:	FB-HM628

miR-628 was significantly downregulated in prostate cancer patients when compared with normal ones. miR-628 serves as novel noninvasive biomarker for prostate cancer diagnosis and prognosis. The fluorescinated hsa-miR-628 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-625

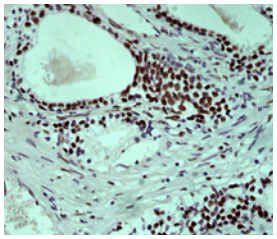


Hsa-miR-625 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM625-100E
Specificity:	miR-625
Recommended Barrier Control:	FB-HM625

miR-625 has been shown to be downregulated in gastric cancers. miR-625 is responsible for the regulation of metastasis in gastric cancer cells, and therefore downregulation of miR-625 results in increased metastasis. The fluorescinated hsa-miR-625 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-629

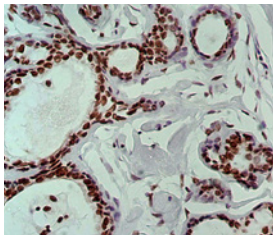


Hsa-miR-629 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM629-100E
Specificity:	miR-629
Recommended Barrier Control:	FB-HM629

miR-629 is upregulated in many cancer tissues. miR-629 activates IL-6–JAK–STAT3 signaling in tumor cells, which in turn upregulates miR-629 expression. The fluorescinated hsa-miR-629 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-627

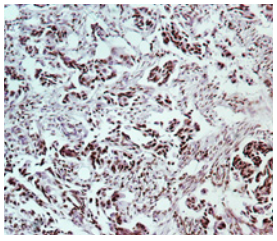


Hsa-miR-627 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM627-100E
Specificity:	miR-627
Recommended Barrier Control:	FB-HM627

miR-627 is a major epigenetic regulator in vitamin D induced growth inhibition of cancerous cells upon stimulation by calcitriol. miR-627 acts on target gene JMJD1A (jumonji domain containing 1A), the gene encoding a histone demethylase which is upregulated under hypoxia and promotes tumor growth in colon cancer cells. Overexpression of miR-627 decreased JMJD1A and suppressed the expression of growth-promoting and differentiating genes, GDF15 in colon cancer both in vitro and in vivo, thereby, serving as potential targets to exploit the antitumor activity of vitamin D. The fluorescinated hsa-miR-627 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-630

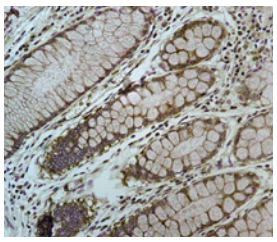


Hsa-miR-630 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM630-100E
Specificity:	miR-630
Recommended Barrier Control:	FB-HM630

miR-630 has recently been identified to be implicated in many critical processes in human malignancies. miR-630 expression was significantly increased in colorectal cancer specimens compared with that in adjacent normal specimens. It was also proved that miR-630 expression in colorectal cancer was associated with tumor invasion, lymph node metastasis, distant metastasis, and tumor-node-metastasis (TNM) stage. miR-630 is associated with tumor progression of hepatocellular carcinoma and may be a potential prognosis indicator. The fluorescinated hsa-miR-630 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-638

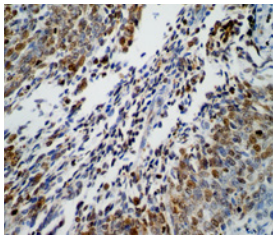


Hsa-miR-638 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM638-100E
Specificity:	miR-638
Recommended Barrier Control:	FB-HM638

miR-638 has been reported to be downregulated in several types of cancer, such as gastric cancer, leukemia and basal cell carcinoma, and may therefore function as a tumor suppressor gene. The fluorescinated hsa-miR-638 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-641

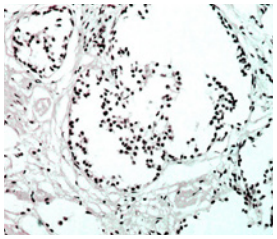


Hsa-miR-641 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM641-100E
Specificity:	miR-641
Recommended Barrier Control:	FB-HM641

miR-641 is an uncharacterized microRNA located at intron-1 of the AKT2 gene and is reported to co-regulate and cooperate with AKT. The fluorescinated hsa-miR-641 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-642a-5p

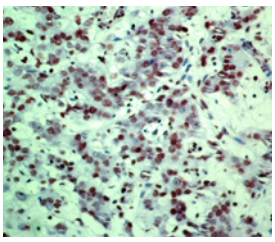


Hsa-miR-642a-5p detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM642A-5P-100E
Specificity:	miR-642a-5p
Recommended Barrier Control:	FB-HM642A-5P

miR-642a-5p targets Toll-like Receptor 4 in monocytes. The fluorescinated hsa-miR-642a-5p probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-648

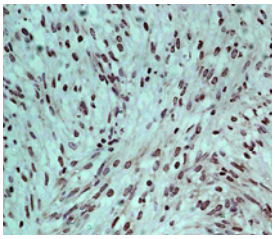


Hsa-miR-648 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM648-100E
Specificity:	miR-648
Recommended Barrier Control:	FB-HM648

The miR-648 gene is present in the first intron of MICAL3, encoding a member of the microtubule associated monooxygenase, calponin, and LIM domain-containing (MICAL) family of flavoprotein monooxygenases, which participate in axon guidance, actin remodeling, and redox activity in promoting vesicle-docking complexes in the process of exocytosis. miR-648 was identified as a novel candidate prostate cancer miRNA biomarker. The fluorescinated hsa-miR-648 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-650

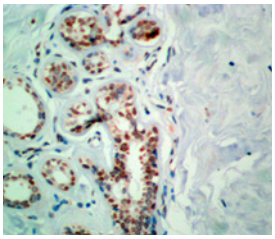


Hsa-miR-650 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HHM0650-100E
Specificity:	miR-650
Recommended Barrier Control:	FB-HM650

miR-650 is involved in lymphatic and distant metastasis in human gastric cancer. The ectopic expression of miR-650 promotes tumorigenesis and proliferation of gastric cancer cells. The fluorescinated hsa-miR-650 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-663a

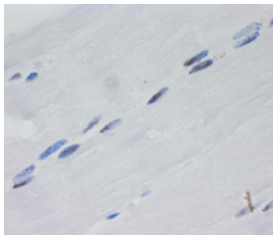


Hsa-miR-663a detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM663A-100E
Specificity:	miR-663a
Recommended Barrier Control:	FB-HM663A

miR-663 may be a potential tumor suppressor in gastric cancer, colorectal carcinoma, prostate cancer. miR-663 was found to be upregulated in nasopharyngeal carcinoma (NPC) cells compared with human immortalized nasopharyngeal epithelium cells. The fluorescinated hsa-miR-663a probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-675

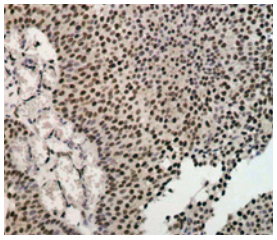


Hsa-miR-675 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM675-100E
Specificity:	miR-675
Recommended Barrier Control:	FB-HM675

miR-675 is embedded in H19's first exon and expressed in the placenta from the gestational time point when placental growth normally ceases. miR-675 has an essential function in skeletal muscle differentiation and regeneration by targeting BMP pathway and Cdc6, a DNA replication initiation factor. The fluorescinated hsa-miR-675 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-765

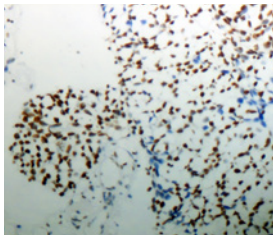


Hsa-miR-765 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM765-100E
Specificity:	miR-765
Recommended Barrier Control:	FB-HM765

miR-765 is a fulvestrant-induced and ERβ-associated miRNA in prostate cancer, and it targets an oncogenic protein HMGA1. The fluorescinated hsa-miR-765 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-708

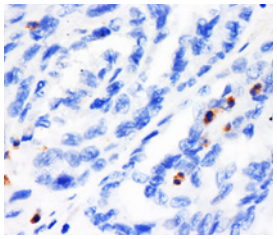


Hsa-miR-708 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM708-100E
Specificity:	miR-708
Recommended Barrier Control:	FB-HM708

miR-708 is located on chromosome 11q14.1 and is endcoded in intron 1 of the ODZ4 gene. It is highly expressed in the brain and eyes. High miR-708 expression levels are observed in lung cancers due to their oncogenic role in lung cancer growth and progression. miR-708 overexpression results in increased cell proliferation, migration, and invasion, and has therefore been associated with a decreased survival rate in lung epithelial cancers. The fluorescinated hsa-miR-708 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-766

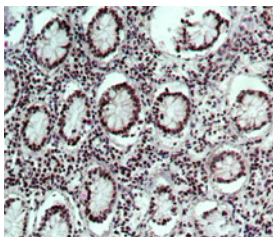


Hsa-miR-766 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM766-100E
Specificity:	miR-766
Recommended Barrier Control:	FB-HM766

Growing evidence indicates that miR-766 acts as a tumor promoter or suppressor in multiple cancers, including cutaneous carcinoma, lung adenocarcinoma, colorectal cancer and renal cell carcinoma. The fluorescinated hsa-miR-766 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-718

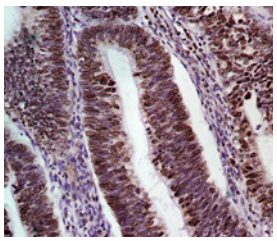


Hsa-miR-718 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM718-100E
Specificity:	miR-718
Recommended Barrier Control:	FB-HM718

miR-718 showed significantly differential expression in hepatocellular carcinoma (HCC). Decreased expression of miR-718 was associated with HCC tumor aggressiveness. The fluorescinated hsa-miR-718 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-802

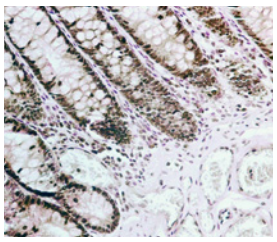


Hsa-miR-802 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM802-100E
Specificity:	miR-802
Recommended Barrier Control:	FB-HM802

Recent reports have described the overexpression of miR-802 in cyst fluids derived from invasive pancreatic carcinomas suggestive of early detection biomarkers of pancreatic cancer. Also enriched expression of miR-802 promoted cell proliferation in U2OS (human osteosarcoma, epithelial) and MG63 (human osteosarcoma fibroblast) cells by negatively targeting cell cycle inhibitor p27 protein as against the normal tissues. The fluorescinated hsa-miR-802 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-874

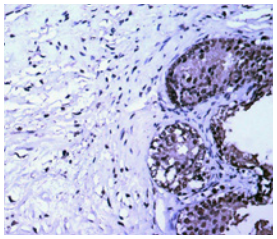


Hsa-miR-874 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM874-100E
Specificity:	miR-874
Recommended Barrier Control:	FB-HM874

miR-874 has been identified as a tumor-suppressor and is reportedly down-regulated in some types of cancer, including gastric cancer, urothelial carcinoma, lung cancer, and squamous cell carcinoma. The fluorescinated hsa-miR-874 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-940

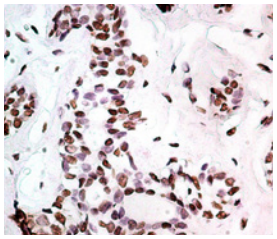


Hsa-miR-940 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM940-100E
Specificity:	miR-940
Recommended Barrier Control:	FB-HM940

The dysregulation of miR-940 has been found in various cancers. miR-940 was highly expressed in normal tissues compared with tumors, and miR-940 inhibited migratory and invasive potential of prostate cancer cells. miR-940 promotes tumor cell invasion and metastasis by downregulating ZNF24 in gastric cancer. The fluorescinated hsa-miR-940 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-944

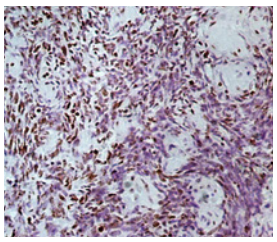


Hsa-miR-944 detected in FFPE tissue stained with DA

Ready-to-use (Manual):	HM944-100E
Specificity:	miR-944
Recommended Barrier Control:	FB-HM944

miR-944 expression has been detected in several cancer types, including cervical, melanoma, colorectal and bladder cancers. In cervical cancer and melanoma, miR-944 is more abundant in tumor samples than in their normal counterparts. High expression of miR-944 is also associated with tumor recurrence in colorectal cancer, and poor chemotherapy response and survival in bladder cancer. The fluorescinated hsa-miR-944 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-1181

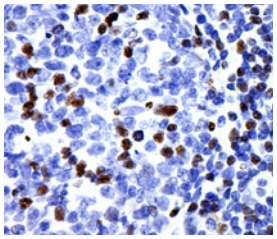


Hsa-miR-1181 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1181-100E
Specificity:	miR-1181
Recommended Barrier Control:	FB-HM1181

Recently, it has been shown that overexpression of miR-1181 inhibited, whereas down-regulation of miR-1181 promoted, cancer stem cells (CSCs)-like phenotypes in vitro and tumorigenicity in vivo in pancreatic cancer cells. This indicated that downregulated or low expression of miR-1181 is associated with poor overall survival and disease-free survival of the pancreatic cancer patients. The fluorescinated hsa-miR-1181 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-1244-1

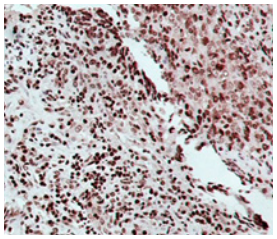


Hsa-miR-1244-1 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1244-1-100E
Specificity:	miR-1244-1
Recommended Barrier Control:	FB-HM1244-1

miR-1244 acts as a tumor suppressor in lung cancer by reducing its proliferation, survival and invasion, and its under-expression is highly associated with patients' survival. Recent studies also suggest that miR-1244 is associated with progression of prostate cancer cells to antiandrogen therapy resistance. The fluorescinated hsa-miR-1244-1 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-1247

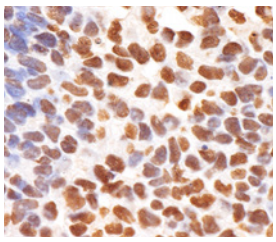


Hsa-miR-1247 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1247-100E
Specificity:	miR-1247
Recommended Barrier Control:	FB-HM1247

Aberrant expression of miR-1247 has been found in several cancers and is predicted to play an important role in the pathological processes of pancreatic cancer by miRNA-regulated network analysis. The fluorescinated hsa-miR-1247 probe is designed to localize this miRNA in FFPE tissue by in situ hybridization.

Hsa-miR-1258

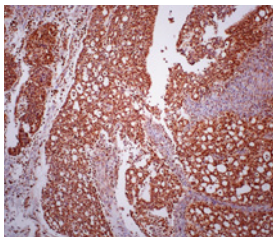


Hsa-miR-1258 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1258-100E
Specificity:	miR-1258
Recommended Barrier Control:	FB-HM1258

miR-1258 suppresses breast cancer brain metastasis by targeting heparanase (HPSE). miR-1258 may play an important role in breast cancer development and progression by regulating the expression of HPSE, and they might be potential prognostic biomarkers for breast cancer. The fluorescinated hsa-miR-1258 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-1285

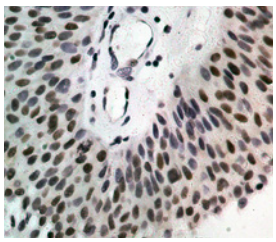


Hsa-miR-1285 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1285-100E
Specificity:	miR-1285
Recommended Barrier Control:	FB-HM1285

Genome-wide gene expression analysis data show that transglutaminase 2 (TGM2) is directly regulated by miR-1285. The fluorescinated hsa-miR-1285 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-1296

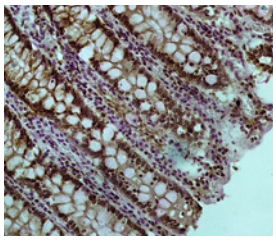


Hsa-miR-1296 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1296-100E
Specificity:	miR-1296
Recommended Barrier Control:	FB-HM1296

miR-1296 is downregulated in prostate cancer and that MCM2 is one of its targets. The fluorescinated hsa-miR-1296 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-1297

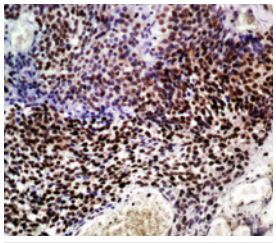


Hsa-miR-1297 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1297-100E
Specificity:	miR-1297
Recommended Barrier Control:	FB-HM1297

It has been reported that miR-1297 acts as a tumor suppressor by suppressing in vitro and in vivo expression of TRIB2/PTEN and further increasing C/EBPα expression thereby inhibits cell proliferation, migration, and tumorigenesis in lung adenocarcinoma and laryngeal squamous cell carcinoma. Recent study in colorectal cancer (CRC) has demonstrated that miR-1297 inhibits the Cox-2/PGE-2 signaling pathway causing higher levels of miR-1297 in normal colorectal tissues than corresponding CRC tissues. The fluorescinated hsa-miR-1297 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-1826

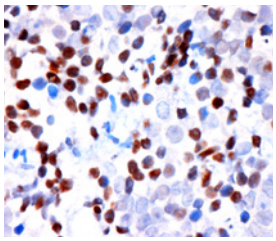


Hsa-miR-1826 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM1826-100E
Specificity:	miR-1826
Recommended Barrier Control:	FB-HM1826

miR-1826 expression was significantly lower in renal cancer tissues and lower expression was significantly associated with overall shorter survival. miR-1826 also inhibited renal cancer cell proliferation, invasion and migration. miR-1826 plays an important role as a tumor suppressor by down-regulating beta-catenin and MEK1 in VHL inactivated renal cancers. The fluorescinated hsa-miR-1826 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-3978

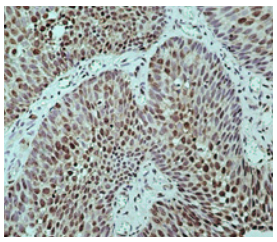


Hsa-miR-3978 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM3978-100E
Specificity:	miR-3978
Recommended Barrier Control:	FB-HM3978

Differential expression of miR-3978 in lung cancer patients is observed5. Putative targets of miR-3978 have not been well defined. However, miR-3978 may target LGMN during metastatic progression of peritoneal gastric cancer patients. The fluorescinated hsa-miR-3978 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-4723

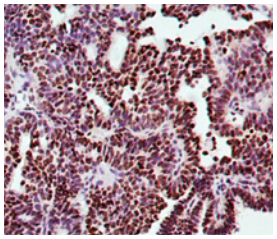


Hsa-miR-4723 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM4723-100E
Specificity:	miR-4723
Recommended Barrier Control:	FB-HM4723

miR-4723 expression is attenuated in prostate cancer and is significantly correlated with poor survival outcome and tumor progression. Functional studies using prostate cancer cell lines showed that reconstitution of miR-4723 expression led to significant decreases in cell growth, invasion and migration. The fluorescinated hsa-miR-4723 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

Hsa-miR-9500

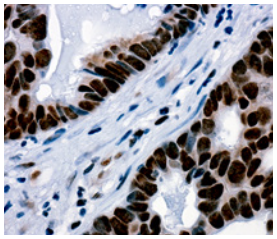


Hsa-miR-9500 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	HM9500-100E
Specificity:	miR-9500
Recommended Barrier Control:	FB-HM9500

miR-9500 is a novel marker of human lung cancer cells. The expression levels of miR-9500 were reduced in lung cancer cells and lung cancer tissues compared with normal tissues. Overexpression of miR-9500 impeded cell migration in human lung cancer cells. The fluorescinated hsa-miR-9500 probe is designed to localize this miRNA in FFPE tissue by *in situ* hybridization.

U6

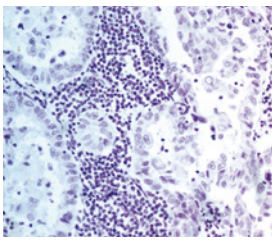


U6 detected in FFPE tissue stained with DAB

Ready-to-use (Manual):	PR031-100E
Specificity:	U6
Recommended Barrier Control:	FB-PR031

The U6 probe identifies a small nuclear RNA U6 sequence in human FFPE and freshly prepared frozen tissues by *in situ* hybridization. The probe sequence does not share homology with miRNA sequences available in the miRBase database.

Scramble



Nagative staining of scramble probe in FFPE tissu

Ready-to-use (Manual):	PR032-100E
Specificity:	Scramble
Recommended Barrier Control:	FB-PR032

The scramble probe does not identify any miRNA sequences in human FFPE and freshly prepared frozen tissues by *in situ* hybridization. The probe sequence does not share homology with miRNA sequences available in the miRBase database.

Hybridization Detection System

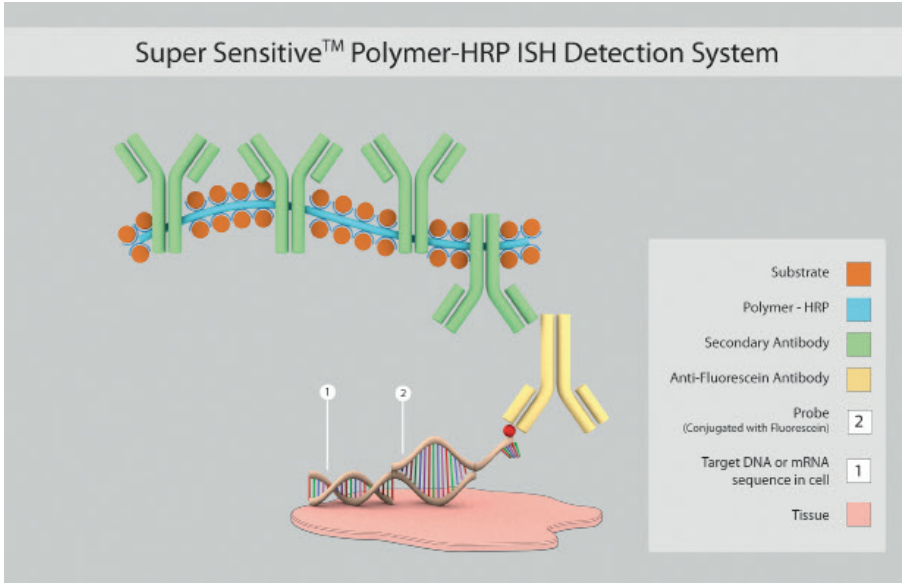
in situ Hybridization (ISH) is a powerful technique for detecting and localizing specific nucleic acid sequences within cells or tissues. This is achieved by the hybridization of a labeled probe to the specific RNA/DNA sequence within the cell and subsequent detection of the bound probe. ISH technique enables the semi-quantification of mRNA expression and helps determine the temporal and spatial patterns of gene expression in cells, tissue and whole animals. ISH technique can also be used for detection of intracellular pathogens with a very high degree of sensitivity.

Super Sensitive™ (Manual) & XISH (Xmatrx®) One-Step Polymer-HRP Detection System

This is a novel detection system using a non-biotin polymeric technology that makes use of Poly-HRP reagent. As the system is not based on the Biotin-Avidin System, problems associated with endogenous biotin are completely eliminated. The technology allows excellent cell penetration ability for intense staining, compared with other polymer HRPs.

Features & Benefits:

- Clean Stain without endogenous biotin background
- High signal to noise ratio for intense stain
- Universal system for all fluorescein labeled probes
- Available in barcode (XISH kit) for Automation or in dropper bottles (Super Sensitive™ kit) for manual staining



ISH Detection Systems Composition

SKU	Size	α Fluor.	Polymer HRP	DAB buffer	DAB Chromo.	Peroxide block	Power block	Hematox	Prot. K	Hybrid. buffer	NAR-1	Washes A,B,E,F
DF400-25K	25 test	2 mL	2 mL	5 mL	2 mL	3 mL	3 mL	3 mL	3 mL	6 mL	2 mL	10 mL
DF400-50KE	50 test	3 mL	3 mL	10 mL	2 mL	5 mL	5 mL	5 mL	5 mL	6 mL	3 mL	20 mL
DF400-YADE Xmatrx®-Elite	100 test	5 mL	5 mL	4x5 mL + 5 barcoded vials	7 mL	10 mL	10 mL	10mL	5 mL	NA	5 mL	2x10 mL

Product	Size	Cat. No.	Description
NAR1	250 mL	HK873-5K	Microwave based nucleic acid retrieval for manual use only

Substrates and Chromogens

BioGenex offers complete Substrate Packs for immunohistochemical staining with alkaline phosphatase and peroxidase labels. The kits are designed to reduce substrate preparation time and minimize exposure to chemical hazards. The chart below summarizes the substrates offered, indicating enzyme and standard mounting media compatibility.

Features & Benefits:

- High Resolution AEC and Liquid DAB
- Rapid Development Time
- Ready-to-use(RTU) Solutions
- Long-Term Stability

The chart below summarizes the compatibility of mounting medium, chromogens and counterstains

Chromogen	Stain Color	Enzyme used	Solubility in Alcohol/Xylene	Compatible with Hematoxylin	Compatible Mounting Media
AEC	Brick Red	HRP	Yes	Yes	Aqueous or Super Mount
DAB	Brown	HRP	No	Yes	Aqueous, Super Mount or Xmount
Elegance Red	Red	AP	No	Yes	Aqueous, Super Mount or Xmount
Fast Red	Red	AP	Yes	Yes	Aqueous or Super Mount
New Fuchsin	Red	AP	Yes	Yes	Aqueous or Super Mount

ISH - Substrates and Chromogens Packs – Manual & Open system**

Product Name	60 Tests*	250 Tests*	500 Tests*/Large
Fast Red	NA	NA	HK182-5KE
Elegance Red	NA	NA	HK144-5KE
New Fuchsin (400 slides)	NA	NA	HK183-5KE
Two Component DAB (BUFFER+CHROMOGEN) (1000 slides)	NA	NA	HK542-XAKE
AEC (BUFFER+CHROMOGEN)	NA	HK092-5KE	HK092-YAKE
AEC (Concentrated BUFFER+CHROMOGEN)	NA	NA	HK129-YAKE
AEC One Step Sol.	HK139-06K	NA	HK139-50K

* 100 µL/test of prepared reagent
** Reagent vials for Xmatrx® need to be purchased separately

Automation

Automated Platforms for Molecular Pathology

BioGenex is a pioneer in the design, development and manufacturing of advanced systems for automation of cell- and tissue-based staining. To accommodate diverse laboratory needs, we offer an array of clinical and research automation platforms that meet globally accepted quality standards (ISO13485:2016 & ISO9001:2015), are approved by the FDA and are specifically designed to improve laboratory workflow, productivity, and reproducibility.

Xmatrx® systems are the direct result of our innovative platform technology innovation. They offer a variety of automation, throughput and assay applications. Our key technology differentiators include the eXACT™ temperature control and reaction micro-chamber- improving IHC results and enabling Nucleic Acid-based Diagnostics (NADx).

- Xmatrx® Infinity is a high-performance staining platform for life sciences and translational research
- Xmatrx® ELITE integrates All-in-One and All-at-Once staining of IHC, ISH, special stains and beyond
- NANOVIP® Infinity is a ten-slide automated system specifically designed for FISH
- NANOVIP® 300 Infinity is a High-throughput automated system
- NANOVIP® Diagnostics is a ten-slide automated system
- NANOVIP®300 Diagnostics is a High-throughput automated system
- Neuvo enables in situ PCR and nucleic acid hybridization with tools for building micro-chamber
- NanoMtrx®100 Infinity is a High-throughput automated system
- NanoMtrx®300 Infinity is a High-throughput automated system

i6000™ systems (Infinity & Diagnostics) are robust high-throughput platforms for IHC with staining capacity of 200 slides in 8 hours. These systems are supplied together with the EZ-Retriever® IR System, Microwave-based Dewaxing and Antigen Retrieval.

1. Clinical platforms: Support LIMS connectivity for data tracking and management, contain Barcode or QR code enabled technologies and include over 400+ optimized protocols with ready to use reagents in barcode or QR code labeled vials (Xmatrx®, i6000™, NanoVIP®, NanoVIP®300, NanoMtrx®300). These systems are FDA approved for In Vitro Diagnostic (IVD) applications including: immuno-histochemistry (IHC), in situ hybridization (ISH) and co- detection.

Clinical Platforms / Application	IHC	ISH/CISH	Double Staining	FISH	PCR
Xmatrx® ELITE	√	√	√	√	√
NanoVIP® Diagnostics	√	√	√	√	√
NanoVIP® 300 Diagnostics	√	√	√	√	√
i6000™ Diagnostics	√	NA	√	NA	NA

2. Research platforms: Offer infinite possibilities for translational and clinical research. They include flexible open system software for easily creating, editing and saving protocols and enable automation of any slide-based assay including immuno-histochemistry (IHC), *in situ* hybridization (ISH), fluorescence *in situ* hybridization (FISH), immuno-fluorescence (IF), co-detection and multiplex applications (double and triple stains; IHC/ISH), micro-RNA and special staining.

Research Platforms / Application	IHC	ISH/CISH	Double Staining	FISH	IF	miRNA ISH	Multiplexing (ISH + IHC)	PCR
Xmatrx® Infinity	√	√	√	√	√	√	√	√
i6000™ Infinity	√	NA	√	NA	√	NA	NA	√
NanoVIP® Infinity	√	√	√	√	√	√	√	√
NanoVIP® 300 Infinity	√	√	√	√	√	√	√	√
NanoMtrx® 100 Infinity	√	√	√	NA	√	NA	NA	√
NanoMtrx® 300 Infinity	√	√	√	NA	√	NA	NA	√
Neuvo	√	√	√	√	√	√	√	√

3. Nucleic Acid Diagnostics (NAD) dedicated Platforms: NanoVIP and Neuvo, are the most economical and flexible automation platforms for FISH, ISH. These systems are small in size, contain 10 independent eXACT™ thermal cyclers that can run 10 different protocols simultaneously. NanoVIP instruments contain on-board wash, Neuvo has manual wash. These instrumentshave audio-visual alerts and a user-friendly software with ability to add or delete cycles, store protocols for future use and perform, deparaffinization, antigen retrieval, hybridization, washing and up to 45 PCR cycles.

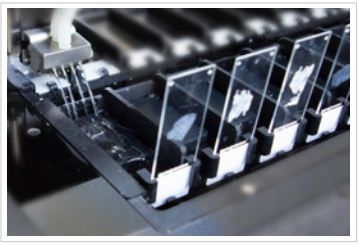
NAD Platforms / Application	ISH/CISH	FISH	miRNA ISH	PCR
NanoVIP®	√	√	√	√
Neuvo	√	√	√	√

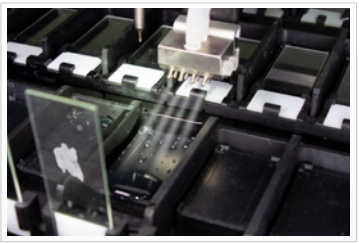
4. Other Systems: The EZ-Retriever® IR System system is designed to work seamlessly with i6000™, providing Eco-friendly De-waxing, Rehydration and Antigen Retrieval in one step, for high-throughput applications. The system provides uniform heating and optimized factory protocols, assuring clean, intense and reproducible staining results. The i500™ Plus is a LIMS enabled barcode label printer for integrated digitized data tracking.

Other Systems	Description
EZ-Retriever® IR System	Pre-treatment and antigen retrieval system using a programmable microwave oven with built-in temperature control
i500 Plus™	LIMS enabled barcode label printer compatible with Xmatrx® and i6000™

Clinical Platforms

NanoVIP® 300 *Diagnostics*

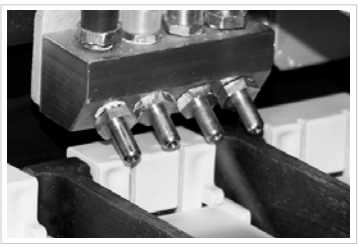


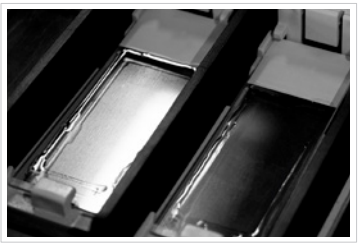


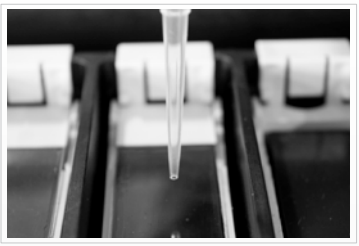
State-of-the-art · Fully Automated All-In-One ISH, IHC

- Fully Automated Microtome to Microscope
- Automates any slide-based assay
- In-built Camera detects the tissue size & location
- Draws hydrophobic barrier around the tissue section
- Dispenses as little as 2 µL at the selected spot
- Liquid level sensors for accurate liquid handling

NanoVIP® *Diagnostics*







State-of-the-art · Fully Automated ISH and IHC System

· Compact and benchtop design: Fully automated system process ten slides.

· Manual reagent application option: Allows for the manual application of high-cost reagents such as FISH probes.

· Flexible open system: Facilitates the creation and optimization of new protocols.

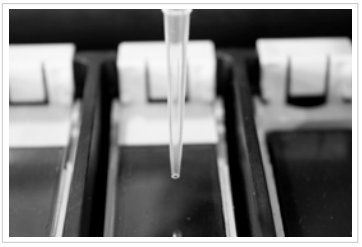
· Liquid level sensors: Ensure precise handling of reagents.

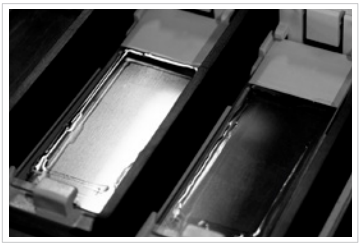
· Cost-efficient operation: Minimizes reagent usage, reducing overall costs.

· Precise dispensing: Minimum reagent dispensing volume of 2 µL.

*Expected release: 2020

Xmatrx® Elite





Three Simple Steps:

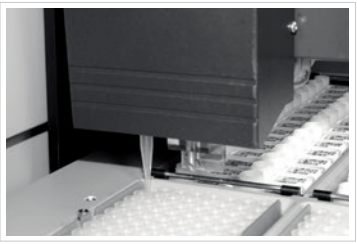
Load ➡ Click ➡ View

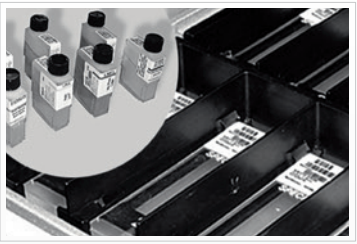
The most advanced fully automated system for IHC, ISH, SS Co-detection, and multiplexing

- 40 independent protocols simultaneously
- Fully automated, including baking, dewaxing & antigen retrieval
- eXACT™ temperature control on every slide (RT-105 °C)
- Bar-Coded reagent vials and slides to eliminates human errors
- Wide reagent dispense volumes: 10 µL to 200 µL
- BioGenex's proprietary coverslip mechanism
- Over 600+ optimized protocols with ready-to-use (RTU) reagents
- LIMS - enabled data tracking and management*
- Liquid level sensor for accurate reagent handling
- System allows use of 3rd party antibodies

i6000™ Diagnostics

Integrated high-throughput workflow solution



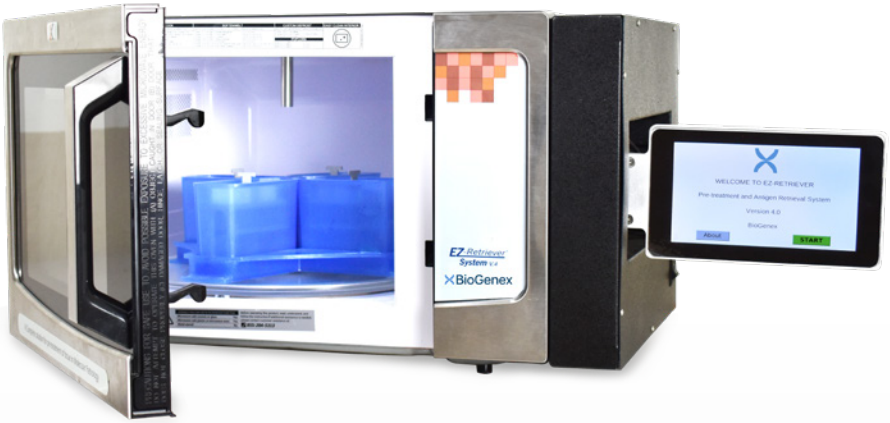


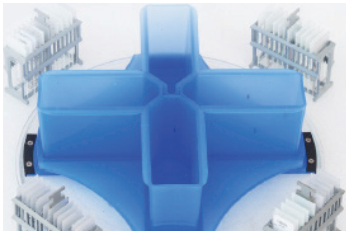
IHC, Multiplex

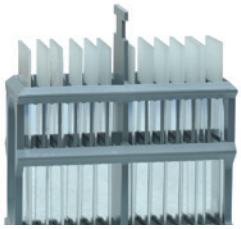
- Clean, crisp and intense stains
- High throughput – Up to 200 slides in eight-hour shift, 60 slides in 3 hours
- Over 600+ optimized protocols with ready to use reagents in barcoded vials
- Dispense reagents as low as 100 µL/slide
- Multiple slide processing options - Random, Continuous and STAT
- Multi-format specimen processing - FFPE or frozen tissues, cell preparations, fine needle aspirates, smears and more...
- Color-coded GUI with real-time assay parameter display for all slides
- Customized or standard reports for inventory management and regulatory compliance and submission

*Expected release: 2020

EZ-Retriever® IR System







Pre-treatment and Antigen Retrieval System

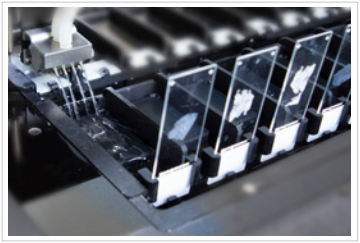
- Precise temperature detection thru IR sensor Large touch
- screen for easy setup of protocols
- Dewax, rehydration, and antigen retrieval
- 96 slides in under 30 min
- Superheating fluid: No boils and spills
- Ultraclean intense stain
- Antigen, nucleic acid and decal retrieval

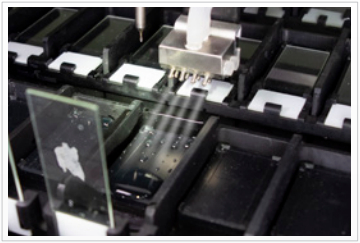
Clinical Platforms Specification

Specifications	Xmatrx® ELITE	i6000™ Diagnostics	NanoVIP® Diagnostics	NanoVIP®300 Diagnostics
Automation	Full (baking through cover slip	Automated. Supplied with The EZ-Retriever® IR System for Dewax & Antigen retrieval	Full (baking through coverslip)	Full (baking through final coverslip)
Run Time (full slide load)	5.5 hours	2.5 hours	4.0 hours	3.5 hours
Throughput (8 hours)	60 slides	200 slides	-	-
Temperature Range	Ambient to 105°C	NA	15-30°C	25-105 °C
Reagent Dispensing Volume	10-200 µL	100-200 µL	2 µL-180 µL	2 µL - 200 µL
Slide Capacity	40	60	10	30
Reagent Capacity	49	60	24	40
Reader	Barcode	Barcode	QR code	QR code
Bulk Reagent Carboy	7 x 4 L	2 x 10 L	5 x 1 L	5X2 L
Waste Container	2 X 8 L	20 L	1X5 L	10 L
Languages enabled	English	English, Chinese, German	English, Chinese, German	English, Chinese, German
LIMS - enabled data tracking and management	√	√	√	√
Protocols	>400, preloaded	>400, preloaded	>400, preloaded	>400, preloaded
Dimensions (D/W/H)	29” x 46” x 66”	24” x 40.5” x 18.5”	21” x 31” x 21”	28” x 39” x 29”
Weight	400 lb/ 182 kg	130 lb / 59 kg	106 lb/48 Kg	232 lb/105 Kg

Research Platforms

NanoVIP® 300 *Infinity*

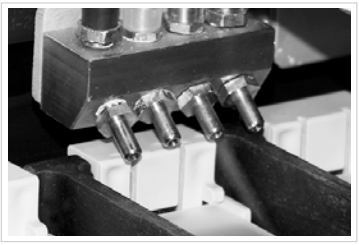


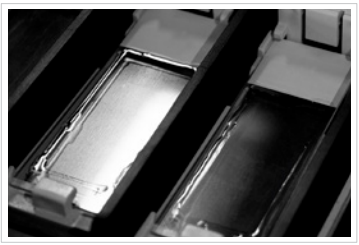


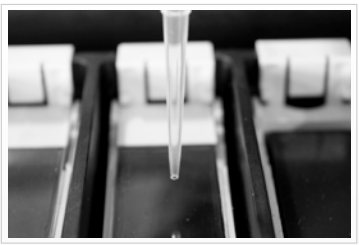
State-of-the-art · Fully Automated All-In-One FISH, ISH, IHC

- Fully Automated Microtome to Microscope
- Automates any slide-based assay
- Baking to DAPI (FISH) & Final Coverslip
- In-built Camera detects the tissue size & location
- Draws hydrophobic barrier around the tissue section
- Dispenses as little as 2 µL at the selected spot
- Liquid level sensors for accurate liquid handling

NanoVIP® *Infinity*







State-of-the-art · Fully Automated FISH IHC and ISH System

· Compact and benchtop design: Fully automated system process ten slides.

· Manual reagent application option: Allows for the manual application of high-cost reagents such as FISH probes.

· Flexible open system: Facilitates the creation and optimization of new protocols.

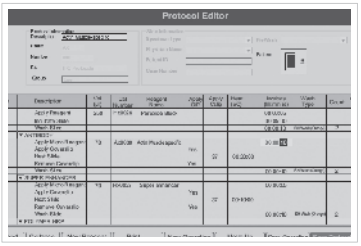
· Liquid level sensors: Ensure precise handling of reagents.

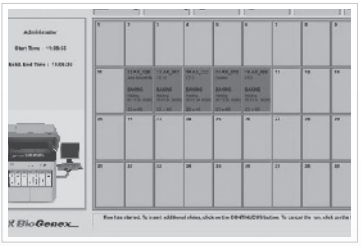
· Cost-efficient operation: Minimizes reagent usage, reducing overall costs.

· Precise dispensing: Minimum reagent dispensing volume of 2 µL.

Xmatrx® Infinity

Infinite Possibilities...For Translational and Clinical Research



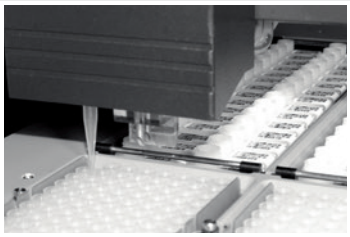


All-in-One - IHC, IF, ISH, CISH, FISH, and miRNA

- Intelligent and flexible system offering infinite possibilities – IHC, ISH, FISH, CISH, IF, Multiplexing and Co-detection
- Simultaneous optimization of up to 40 parameters in single run
- Reaction micro-chamber reduces micro-reagent consumption by up to 90%
- 40 independent thermocyclable (PCR) workstations
- Intuitive software designed for ease of use and flexibility
- Reports for inventory management and regulatory compliance
- Multiple slide processing options – Random, Continuous and STAT

i6000™ Infinity

Integrated high-throughput workflow solution



Multi-functional System - Multiplex IHC

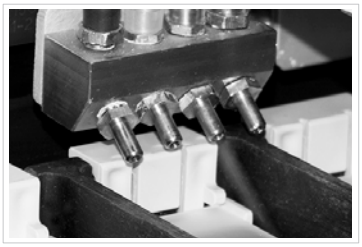
- Fully open system to customize any manual protocol
- Simultaneous optimization of up to 60 assay parameters
- Disposable pipette tips – eliminates cross contamination
- Audio and visual alerts at every step for manual intervention
- Customized reporting system for detailed report generation
- Multiple slide processing options – Random, Continuous and STAT

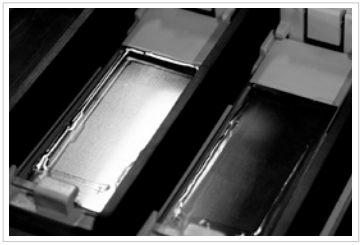
Research Platforms Specification

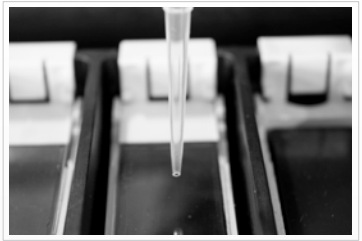
Specifications	Xmatrx® Infinity	i6000™ Infinity	NanoVIP® Infinity	NanoVIP®300 Infinity	NanoMtrx® 100 Infinity	NanoMtrx®300 Infinity	Neuvo®
Automation	Full (baking through cover slip)	Automated staining	Full (baking through cover slip)	Full (baking through cover slip)	Full	Full	Manual
Run Time (full slide load)	Open System / User defined	Open System / User defined	Open System / User defined	Open System / User defined	Open System / User defined	Open System / User defined	Open System / User defined
Temperature Range	25 - 105 °C	15-30 °C	Ambient to 15-30 °C	Ambient to 105 °C	Ambient to 15-30 °C	Ambient to 105 °C	Ambient to 15-30 °C
Reagent Dispensing Volume	10-200 µL	100-200 µL	2-180 µL	10-200 µL	200 µL	200 µL	Manual Dispense
Slide Capacity	40	60	10	30	10	30	10
Reagent Capacity	49	60	24	40	24	40	NA
Bulk Reagent Carboy	7 x 4 L	2 x 10 L	5 x 1 L	5 x 2 L	5 x 1 L	5 x 2 L	1 x 1 L
Waste Container	2 X 8 L	1 X 20 L	1 X 5 L	1 X 10 L	1 X 5 L	1 X 10 L	1 X 5 L
Auto Drain	NA	NA	√	√	√	√	NA
Languages enabled	English	English, Chinese, German	English	English	English	English	English
LIMS - enabled data tracking and management	√	√	√	√	√	√	NA
Auto DAB	√	√	√	√	√	√	NA
Ease of slide loading	√	√	√	√	√	√	√
Protocols	Template / Self	Template / Self	Template / Self	Template / Self	Template / Self	Template / Self	Template / Self
Dimensions (D/W/H)	29”/66”/59”	24”/40.5”/18.5”	21”/31”/21”	28” x 39” x 29”	21”/31”/21”	28” x 39” x 29”	13”/20”/8.5”

Nucleic Acid Diagnostic Platforms

NanoVIP®







All-in-One - ISH, FISH, miRNA ISH and IHC

· Compact and benchtop design: Fully automated system process ten slides.

· Manual reagent application option: Allows for the manual application of high-cost reagents such as FISH probes.

· Flexible open system: Facilitates the creation and optimization of new protocols.

· Liquid level sensors: Ensure precise handling of reagents.

· Cost-efficient operation: Minimizes reagent usage, reducing overall costs.

· Precise dispensing: Minimum reagent dispensing volume of 2 µL.

Neuvo®

eFISHiency Workstation

- eFISHiency Workstation for manual FISH assay
- Hybridizer with eXACT™ temperature controls
- 10 Independently programmable thermal cyclers
- Built-in touch screen display
- Manual coverslip application and removal

Accessories

Oil stamp

Coverslip stand

Suction pen

Nucleic Acid *In Situ* Research Platform Specification

Specifications	NanoVIP®	Neuvo®
Automation	Full Automation	Work Station
Run Time (full slide load)	Open System / User defined	Open System / User defined
Temperature Range	Ambient to 105 °C	Ambient to 105 °C
Reagent Dispensing Volume	10-200 uL	NA
Slide Capacity	10	10
Reagent Capacity	24	NA
Bulk Reagent Carboy	5 x 1 L	1 X 1 L
Waste Container	5 L	5 L
Touch Screen	NA	√
Languages enabled	English	English
LIMS - enabled data tracking and management	√	NA
Protocols	Template / Self	Template / Self
Dimensions (D/W/H)	21”/31”/21”	13”/20”/8.5”
Weight	106 lb/ 48 kg	30 lb/ 14 kg

eFISHiency - FISH Made Easy

NanoVIP®300

All-in-One FISH . ISH . IHC

- Fully Automated Microtome to Microscope
- Automates any slide-based assay
- Baking to DAPI (FISH) & Final Coverslip
- In-built Camera detects the tissue size & location
- Draws hydrophobic barrier around the tissue section
- Dispenses as little as 2 µL at the selected spot
- Liquid level sensors for accurate liquid handling

Three Simple Steps:

Load ➡ Click ➡ View

NanoVIP®

eFISHiency System for FISH Automation

- Compact and benchtop design: Fully automated system process ten slides.
- Manual reagent application option: Allows for the manual application of high-cost reagents such as FISH probes.
- Flexible open system: Facilitates the creation and optimization of new protocols.
- Liquid level sensors: Ensure precise handling of reagents.
- Cost-efficient operation: Minimizes reagent usage, reducing overall costs.
- Precise dispensing: Minimum reagent dispensing volume of 2 µL.

Three Simple Steps:

Load ➡ Click ➡ View

Xmatrx® Elite

Microtome to Microscope

- The world's first and only fully automated front-end FISH processing system
- Run up to 40 slides under multiple protocols
- Reduce hands-on tech time from 7.5 hours to 30 minutes

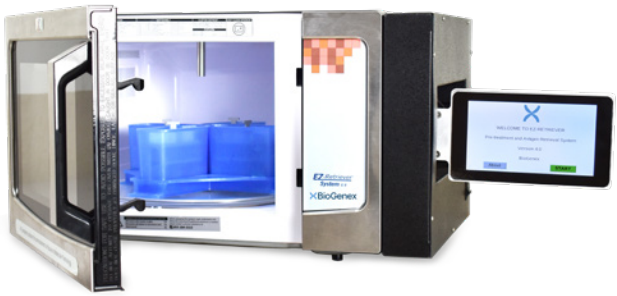
33 Steps Reduced to 3

Load ➡ Click ➡ View

Other Systems

EZ-Retriever® IR System

- Precise temperature detection thru IR sensor
- Large touch screen for easy setup of protocols
- Dewax, rehydration, and antigen retrieval
- 96 slides under 30 min
- Superheating fluid: No boils and spills
- Ultraclean intense stain
- Antigen, nucleic acid and decal retrieval



Neuvo®

eFISHiency Workstation

- eFISHiency Workstation for manual FISH assay
- Hybridizer with eXACT™ temperature controls
- 10 Independently programmable thermal cyclers
- Built-in touch screen display
- Manual coverslip application and removal

Accessories

Oil stamp

Coverslip stand

Suction pen

i500 Plus™

LIS Enabled Barcode & QR code Label Printer

Integrated Digitized Data Tracking System

- For printing chemical resistant barcode & QR code labels
- Barcode labels compatible with Xmatrx® and i6000™
- QR code labels compatible with NanoVIP®, NanoVIP®300 NanoMtrx®100 and NanoMtrx®300.
- User-friendly software
- Synchronization of protocol information
- Efficient system
  - Eliminates human error
  - Helps reduce operating cost
  - Fast turn-around

Automated Staining Systems

Product Name	Cat. No.
Xmatrx® ELITE	AS4040B
Xmatrx® Infinity	AS4000RX
NanoVIP® Diagnostics	AS1050
NanoVIP® Infinity	AS1020
Neuvo®	AS1060
i6000™ Diagnostics	AS6030
i6000™ Infinity	AS6040
NanoVIP®300 Diagnostics	AS3020
NanoVIP®300 Infinity	AS3010
NanoMtrx®100 Infinity	AS1030
NanoMtrx®300 Infinity	AS3000

Immunohistochemistry - Detection Kits

The XViz™ Detection System

All reagents except those for Xmatrx® Infinity are packed in barcode labeled vials especially designed for use on Xmatrx® Automated Staining Systems to ensure accurate identification, proper reagent inventory management and staining up to 200 slides.

Product Name	Pack Size	Cat. No.
XViz™ Detection Kit for Elite EZ-AR™ Elegance solutions (1 X 16 mL each of solutions 1, 2) 3X16 mL Peroxide Block, 3X16 mL Power Block™, 2 X 16 mL Super Enhancer, 2 X 16 mL Polymer HRP, 4 X 13 mL DAB Buffer, 1 X 4 mL DAB chromogen, 3 X 16 mL Hematoxylin	200 slides	QD550-YCDE
XViz™ Detection Kit for Xmatrx® Infinity EZ-AR™ Elegance Solution (1x14 mL each of solutions 1 and 2), 4x15 mL Peroxide Block, 2x20 mL Power Block, 1X14 mL Super enhancer, 1X14 mL Polymer HRP, 4X13 mL DAB buffer, 1x4 mL DAB Chromogen, 4x15 mL Hematoxylin.	200 slides	QD550-YCXE

Super Sensitive™ One-step Polymer-HRP Detection Kit

This kit is designed with the proprietary technology which provides superior sensitivity, specificity and very short protocol. The innovative secondary antibody-polymer conjugate consists of multiple small HRP active sites, which enables clean and intense, nuclear, cytoplasmic, and membrane stains.

Product Name	Contents	Pack Size	Cat. No.
Super Sensitive™ One-step Polymer-HRP Detection Kit/DAB	EZ-AR™ Elegance solutions (1 x 16 mL each of solutions 1, 2,), 3 x 16 mL Peroxide Block, 3 x 16 mL Power Block™, 2-one-step x 16 mL Polymer HRP, 4 x 13 mL DAB Buffer, 1 x 4 mL DAB chromogen, 3 x 16 mL Hematoxylin	200 Slides	QD610-YADE

XViz™ Double Staining Polymer Detection Kits

Product Name	Contents	Pack Size	Cat. No.
XViz™ Double Staining Polymer Detection Kit I/DAB&Fast Red	1 X 7 mL EZ-AR™ Elegance Solutions (1,2), 2 X 10 mL Peroxide Block, 2 X 10 mL Power Block, 4 X 5 mL DAB Buffer 1 X 3 mL Liquid DAB Chromogen, 1 X 7 mL Mouse Negative Control, 1 X 7 mL Rabbit Negative Control, 2 X 7 mL Anti Rabbit Poly-Hrp + Anti Mouse Poly-AP, 2 X 10 mL Hematoxylin, 2 X 15 mL DAB Buffer, 2mL DAB Chromogen, Red Buffer D 2X15 mL, Red Reagents A,B&C (1X0.8 mL each)	100 Slides	QS200-YADE
XViz™ Double Staining Polymer Detection Kit II/DAB&Fast Red	1 X 7 mL EZ-AR™ Elegance Solutions (1, 2), 2 X 10 mL Peroxide Block, 2 X 10 mL Power Block, 2 X 15 mL DAB Buffer 1 X 2 mL Liquid DAB Chromogen, 1 X 7 mL Mouse Negative Control, 1 X 7 mL Rabbit Negative Control, 2 X 7 mL Anti Mouse Poly-Hrp + Anti Rabbit Poly-AP, 2 X 10 mL Hematoxylin. Red Buffer D 2X15 mL, Red Reagents A,B&C (1X0.8 mL each)	100 Slides	QS400-YADE

Antigen Retrieval Solutions

The EZ-AR™ Elegance Solutions possess unique properties that enable optimal dewaxing, rehydration, and antigen retrieval in formalin-fixed, paraffin-embedded tissue sections. These solutions facilitate the production of highly reproducible and superior quality stains in a considerably short period of time without compromising the morphology and antigenicity of the tissue.

Xmatrx® Elite - in Barcode Labeled vials

Product Name	Product Description	Pack Size	Cat. No.
EZ-AR™ 1 Elegance	EZ-AR™ 1 Elegance is a Citra based solution. Works at 100°C	200 slides	HX031-YCD
EZ-AR™ 2 Elegance	EZ-AR™ 2 Elegance is an EDTA based solution. Works at 100°C	200 slides	HX032-YCD

Xmatrx® Infinity

Product Name	Product Description	Pack Size	Cat. No.
EZ-AR™ 1 Elegance	EZ-AR™ 1 Elegance is a Citra based solution. Works at 100°C	200 slides	HX031-YCX
EZ-AR™ 2 Elegance	EZ-AR™ 2 Elegance is an EDTA based solution. Works at 100°C	200 slides	HX032-YCX

Enzymatic Pre-treatment Solutions

Product Name	Pack Size	Cat. No.
Pepsin 4-Pack: 4 vials of Lyophilized Enzyme Powder, 4 x 6 mL Reconstitution Buffer	200 slides	EK000-10XE
Trypsin 4-Pack: 4 vials of Lyophilized Enzyme Powder, 4 x 6 mL Reconstitution Buffer	200 slides	EK001-10XE
Protease XXIV 4-Pack: 4 vials of Lyophilized Enzyme Powder, 4 x 6 mL Reconstitution Buffer	200 slides	EK002-10XE

In Situ Hybridization Kits and Probes

The XISH Detection Kit is designed for using with fluorescein labeled probes. It enables accurate detection of specific DNA and mRNA sequences in routine paraffin sections/cell smears.

ISH Probes*

Probes are packaged with barcode labeled vials for staining up to 25 slides.

Product Name	Intended Use	Pack Size	Cat. No.
Alu II DNA	Positive control probe for detection of primate DNA sequence repeat	25 slides	PR026-YADE
Beta-Actin	Internal standard for ISH and Northern blot	25 slides	PR1055-YADE
CerviPro HPV 14	Detection of high risk genotypes of human papillomavirus	25 slides	PR251-YADE
CerviPro HPV Type 16/18	Detection of HPV types 16 and 18	25 slides	PR250-YADE
Epstein Barr Virus Early RNA (EBER)	Detection of latent EBV infection	25 slides	PR205-YADE
Kappa	Detection of Kappa light chain mRNA	25 slides	PR214-YADE
Lambda	Detection of Lambda light chain mRNA	25 slides	PR215-YADE
Oligo dT	Assessment of mRNA preservation	25 slides	PR217-YADE
Retinoblastoma	Detection of Retinoblastoma mRNA	25 slides	PR225-YADE

*Research use only

One Step ISH Detection Kit

Product Name	Probe Type	Pack Size	Cat. No.
XISH™ One Step Polymer-HRP ISH Detection System 1. Liquid Pepsin 1X5ml 2. Nucleic Acid Retrieval Solution 1 x 5 mL 3. Hybridization Solution 1X6ml4. Wash Solution A 2 x 10 mL 5. Wash Solution B 2 x 10 mL 5. Wash Solution B 2 x 10 mL 6. Wash Solution E 2 x 10 mL 7. Wash Solution F 2 x 10 mL 8. Peroxide Block 1 x 10 mL 9. Power Block 1 x10 mL 10. Anti-Flourescein Antibody 1 x 5 mL 11. One step Poly-HRP Reagent 1 x 5 mL 12. 4 x 5 mL DAB Buffer, 13. Liquid DAB Chromogen 1 x 2 mL 14. 1 x 10 mL Hematoxylin 15. 1 x 5 mL Proteinase K	Fluorescein Labeled	100 slides	DF400-YADE

Empty Reagent Vials

Product Name	Pack Size	Cat. No.
User defined Empty barcode labeled vials- Two step IHC	Each	XT077-AX0601 to XT077-AX0800
User defined Empty barcode labeled vials- One step IHC	Each	XT077-AX0801 to XT077-AX0999
User defined Empty barcode labeled vials- ISH Probes	Each	XT079-PR0050 to XT079-PR0099

Consumable Kit

Product Name	Pack Size	Cat. No.
ISH Consumable Kit-Xmatrx® 2 x 52 nos 25 x 25 mm Double Barrier Slides, 1 x 900 Nos of 25 x 25 mm Coverslips, 2 x 192 Large Pipette Tips (1 mL), 1 x 960 Nos of Pipette Tips (200 µL)	100 slides	XT144-YAD

Xmatrx® Consumables

Product Name	Pack Size	Cat. No.
Barrier Slides, 18x18 mm, 2-zone, Xmatrx® ELITE & Infinity	1400 Slides/Case	XT114-CL
Barrier Slides, 18x18 mm, 2-zone, Xmatrx® ELITE & Infinity	70 Slides/Box	XT114-SL
Barrier Slides, 18x18 mm, Xmatrx® ELITE & Infinity	1400 Slides/Case	XT128-CL
Barrier Slides, 18x18 mm, Xmatrx® ELITE & Infinity	70 Slides/Box	XT128-SL
Barrier Slides, 25X25 mm, Xmatrx® ELITE & Infinity	1400 Slides/Case	XT108-CL
Barrier Slides, 25X25 mm, Xmatrx® ELITE & Infinity	70 Slides/Box	XT108-SL
Barrier Slides, 25X40 mm, Xmatrx® ELITE ISH & Infinity	1400 Slides/Case	XT134-CL
Barrier Slides, 25X40 mm, Xmatrx® ELITE ISH & Infinity	70 Slides/Box	XT134-SL
Coverslips, 18x18 mm, Xmatrx® ELITE & Infinity	1750 Coverslips/Case	XT121-XBK
Coverslips, 18x18 mm, Xmatrx® ELITE & Infinity	175 Coverslips/Box	XT121-YBX

Product Name	Pack Size	Cat. No.
Coverslips, 25x25 mm, Xmatrx® Infinity & ELITE ISH	90 Coverslips/Box	XT122-90X
Coverslips, 25x25 mm, Xmatrx® Infinity & ELITE ISH	900 Coverslips/Case	XT122-YQK
Coverslips, 25x40 mm, Xmatrx® ELITE & Infinity	50 Coverslips/Box	XT118-50X
Coverslips, 25x40 mm, Xmatrx® ELITE & Infinity	500 Coverslips/Box	XT118-YRK
Reagent Vials, Brown, 20 mL, Xmatrx® Infinity	24/Pack	XT101-24X
Reagent Vials, Translucent, 20 mL, Xmatrx® Infinity	24/Pack	XT026-V24
Reagent vial - no lid, brown/2 mL vial holder for Xmatrx® ELITE	24/pack	XT126-24V
Pipette Tips, 1 mL, Xmatrx® ELITE & Infinity	960 Tips/Case	XT104-05X
Pipette Tips, 1 mL, Xmatrx® ELITE & Infinity	192 Tips/Box	XT105-01X
Pipette Tips, 200 µL, Xmatrx® ELITE & Infinity	960 Tips/Box	XT146-01X
Pipette Tips, 200 µL, Xmatrx® ELITE & Infinity	4800 Tips/Case	XT145-05X
Reagent Vial Insert, 2 mL	24/Pack	XT149-V24

Ancillary Reagents

DeWax Solutions†

BioGenex X-DeWax™ Solution is a “one-step” product that simultaneously enables the removal of paraffin and allows rehydration of the tissue with a single reagent. In the past, formalin-fixed, paraffin-embedded tissue sections were traditionally deparaffinized with highly toxic, noxious chemicals (i.e. xylene, equivalents). BioGenex, a pioneer in the Immunohistochemistry technology, offers a xylene-free product that removes the paraffin from mounted tissue slides easily and rapidly.

Product Name	Pack Size	Cat. No.
X-DeWax™ Solution (Ready-to-Use)	1000 mL	HX015-XAK†
X-DeWax™ Solution (Concentrated)	1000 mL	HX016-XAK†
X-DeWax™ Solution (Concentrated)	1 Gallon	HX016-XEK†

XMount™

Product Name	Pack Size	Cat. No.
XMount™ for Xmatrx® Elite (barcode)	200 slides	HX035-YCD
XMount™ for Xmatrx® Infinity	200 slides	HX035-10X

Wash Buffers

XWash™ Buffer provides optimal staining with minimal background.

Product Name	Pack Size	Cat. No.
SuperSensitive Wash Buffer	500 mL	HK583-5K
X-Wash Buffer, 20X for Xmatrx®	500 mL	HX020-YIK

FISH Application

Product Name	Cat. No.
Xmatrx® FISH Software	4812-00089

Note: Unless specified otherwise, all products listed in this section are for Laboratory Use Only.

† U.S. Patent No. 6,632,598; U.S. Patent No. 7, 070, 951; Japanese Patent No. 3532571; European Patent No. 0698118B1.

Detection Systems

Our all-inclusive, Super Sensitive™ Detection Systems contain all the reagents required for easy, fast, and exceptional staining. Each kit contains enough reagents to stain approximately 200 slides at 100 µL per slide. The following kit configurations are available to fit the laboratory's needs for any staining requirement. Reagents are offered in barcoded vials designed for use on the i6000™ Staining Systems.

Product Name	Pack Size	Cat. No.
Super Sensitive™ One-step Polymer-HRP Detection Kit/DAB	200 slides	QD610-YAXE
Super Sensitive™ Polymer HRP Detection System/DAB	200 slides	QD410-YAXE
Avidin/Biotin Blocking Kit RTU	200 slides	HK102-20XE
Avidin/Biotin Blocking Kit RTU	100 slides	HK102-10KE

OptiMiser Reagent Vials and Accessories (User Defined)

The OptiMiser reagent vials (U.S. & Foreign Equivalent Patents Pending) are available as a 20 mL disposable barcoded pack for use on the i6000™ staining systems.

Product Name	Pack Size	Cat. No.
OptiMiser Reagent Vials, Labeled (20 mL) (Empty Vials supplied with 100 corresponding slide barcode labels)	1 each	XT026-601 to XT026-899 XT026-601P to XT026-750P
OptiMiser Reagent Vials, Unlabeled (20 mL) White	Pack of 24	XT026-V24
OptiMiser Reagent Vials, Unlabeled (20 mL) Brown	Pack of 24	XT101-24X
OptiMiser Universal Vial Holders	Pack of 24	XT027-H24
OptiMiser Vial Caps	Pack of 24	XT022-CP
Reagent Empty Vial Labeled for User Probe	1 each	XT026-PR601 to XT026-PR615

Note: Unlabeled Vials - for open system only

Barrier Slides, PAP Pen, and Barcode Labels

OptiPlus™ Positively-charged Barrier Slides (U.S. & Foreign Equivalent Patents Pending) contain hydrophobic barriers that allow the quantity of reagent per slide to be tailored to the size of the specimen. These slides come in three configurations to accommodate different tissue sizes or multiple tissues per slide; A single full-size test area of 25 mm x 40 mm, a single 2/3-size test area of 25 mm x 30 mm, and three 1/3-size test areas per slide, each measuring 25 mm x 15 mm. The permanent hydrophobic barriers are compatible with dewaxing solutions and other reagents. The slides are suitable for use with frozen tissue sections, formalin-fixed paraffin sections, and cytology preparations.

Product Name	Pack Size	Cat. No.
OptiPlus™ Positively-charged Barrier Slides (full test area)	1 box (70 slides)	XT134-SL
	1 case (20 boxes)	XT134-CL
OptiPlus™ Positively-charged Barrier Slides (2/3 test area)	1 box (70 slides)	XT013-SL
	1 case (20 boxes)	XT013-CL
OptiPlus™ Positively-charged Barrier Slides (3 x 1/3 test area)	1 box (70 slides)	XT014-SL
	1 case (20 boxes)	XT014-CL
PAP Pen (for 500 - 1000 slides)	1 each	XT001-PP
Slide Barcode Labels	100/sheet	AM6010 to AM7990 AR6010 to AR6600

Pipette Tips

Each pipette tip is carefully inspected to ensure optimal and accurate performance.

Product Name	Pack Size	Cat. No.
Pipette Tips for *i*6000™ (1.0 mL)	1 box (192 tips)	XT105-01X
Pipette Tips for *i*6000™ (1.0 mL)	5 boxes (960 tips)	XT104-05X

Ancillary Reagents

EZ-DeWax™ Solutions[1]

Tissue specimens are usually fixed and embedded in paraffin, sectioned on a microtome, and then attached to slides. Before immunostaining, the sections are traditionally deparaffinized with highly toxic, noxious chemicals (xylene and alcohols or equivalents). BioGenex offers a revolutionary product that simply, easily and rapidly removes the paraffin from mounted tissue slides. Use of non-xylene based BioGenex EZ-DeWax™ Solution permits a two-step application of a single reagent that completely removes the paraffin, rendering the tissue's antigenic sites accessible to the antibodies, chromogens and other aqueous solutions. The deparaffinization time is reduced from 45 minutes of manual processing to less than 15 minutes of automated dewaxing on the BioGenex i6000™ Automated Staining System using the EZ-DeWax™ Solution. The solution simultaneously removes paraffin and rehydrates the tissue.

Product Name	Pack Size	Cat. No.
EZ-DeWax™ Solution (Concentrated)[1] (Requires 500 mL of histologic grade ethanol for reconstitution)	500 mL	HK584-5K
EZ-DeWax™ Solution (RTU)[1]	1000 mL	HK585-5K

[1] US Patent No. 6,632,598; Japanese Patent No. 3532571; European Patent No. 0698118B1.

Enzymes for Pre-treatment

Some tissues require the use of enzymatic pre-treatment before staining to achieve standardized results depending on the antibodies and their different incubation and pre-treatment requirements.

Product Name	Pack Size	Cat. No.
Pepsin 4-Pack 4 vials of Lyophilized Enzyme Powder, Reconstitution Buffer 4 x 5 mL	200 slides	EK000-10KE
Trypsin 4-Pack 4 vials of Lyophilized Enzyme Powder, Reconstitution Buffer 4 x 5 mL	200 slides	EK001-10KE
Protease XXIV 4-Pack 4 vials of Lyophilized Enzyme Powder, Reconstitution Buffer 4 x 5 mL	200 slides	EK002-10KE
Diastase (Alpha-Amylase Kit) 4 vials of alpha-amylase, 4 vials of alpha-amylase diluent	200 slides	EK004-5KE

Wash Buffers

Super Sensitive™ Wash Buffers are used to ensure optimal staining with even spreading of antibodies and other reagents to avoid inconsistent results.

Product Name	Pack Size	Cat. No.
Super Sensitive™ Wash Buffer, 20X concentrated	500 mL	HK583-5K
X-Wash Buffer, 20X for Xmatrx®	500 mL	HX020-YIK
SS Wash Solution	500 mL	HK755-5K

EZ-AR™ Solutions

Product Name	Product Description	Pack Size	Cat. No.
EZ-AR™ 1 RTU[1]	EZ-AR™ 1 is a Citra based solution. Works at 107°C	1L	HK521-XAK
EZ-AR™ 2 RTU[1]	EZ-AR™ 2 is a EDTA based solution. Works at 107°C	1L	HK522-XAK
EZ-AR™ 2 RTU[1]	EZ-AR™ 2 is a EDTA based solution. Works at 107°C	2GL	HK522-XIKE
EZ-AR™ Common, Conc.[1] (5X)	DeWax solution. Use in combination with other EZ-AR™ solutions	1 L	HK545-XOK

i500 Plus™

Product Name	Cat. No.
*i*500 Plus™ LIS Enabled Barcode Label Printer	BLS500

Instrument Accessories

Product Name	Pack Size	Cat. No.
Resin Ribbon	1 Roll	XT034-XEX
Labels Roll	1 Roll	XT035-XBX

[1] U.S. Patent Numbers 6,451,551 and 5,578,452 (as well as foreign equivalents)

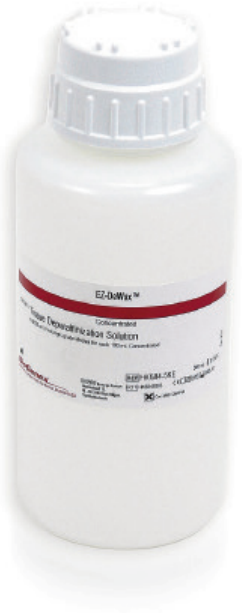
Tissue Pre-treatment & Nucleic Acid Retrieval

De-Waxing Solutions

One-Step DeWaxing and Rehydration Reagent

BioGenex deparaffinization solutions are “one-step” products that simultaneously enables the removal of paraffin and allows rehydration of the tissue with a single reagent. In the past, formalin-fixed, paraffin-embedded tissue sections were traditionally deparaffinized with highly toxic, noxious chemicals (i.e.xylene, xylene equivalents). BioGenex, a pioneer in the Immunohistochemistry technology, offers xylene-free products that removes the paraffin from mounted tissue slides easily and rapidly.

1. EZ-DeWax™ Sol. – For all BioGenex manual methods.
2. X-Dewax™ Sol. – Optimized for Xmatrx® automation.



Features & Benefits

- Effectively removes paraffin and allow rehydration of the tissue in one step.
- Reduces deparaffinization time from 45 minutes to 10 minutes.
- Eliminates use of toxic solvents (xylene) and minimizes hazardous waste.
- Ready-to-use(RTU) or 2x solutions (to be diluted 1:1 with ethanol) are available.

Product	1000 mL(RTU)	500 mL(2x)	1 Gallon(2x)
X-DeWax (Xmatrx®)	HX015-XAK	HX016-XAK	HX016-XEK
EZ-DeWax (Manual)	HK585-5k	HK584-5k	NA

Nucleic Acid Retrieval Method

BioGenex is the inventor of Nucleic Acid Retrieval enabling technology. This technology is an effective way of unmasking DNA in formalin-fixed, paraffin-embedded tissue sections using microwave heating. The Nucleic Acid Retrieval technique breaks the formalin induced cross-linking bonds between DNA and proteins, as well as protein-protein cross-linking thereby allowing better penetration of probes and accessibility of DNA for binding. Nucleic Acid Retrieval (NAR-1) is recommended instead of proteinase K when DNA targeting probes are used.

Advantages of the method:

- Reduces time for probe incubation
- Consistent and reliable staining quality
- Eliminates false-negative staining results
- Easy to use - Can be used in both microwave or Xmatrx® Automation protocols
- Non-hazardous, non-flammable and odorless – Safe and Eco-friendly

Product	Method	Features & Recommended Use
NAR-1	Microwave, 95-100 °c	Excellent for DNA targeting probes

Enzymes for Tissue Digestion

Some tissues require the use of enzymatic pre-treatment before staining to achieve standardized results depending on the antibodies and their different incubation and pre-treatment requirements. Each kit contains three or four vials of lyophilized enzyme powder and 15 mL of reconstitution buffer, enabling you to make fresh enzyme solutions as needed.

1. Proteinase K in a ready-to-use(RTU), RNase-free solution and is recommended for use with RNA targeting probes.
2. The Trypsin and Pepsin kits contain well-established enzymes suitable for routine pre-treatment at 37 °C. Pepsin is recommended as pretreatment for FISH applications.
3. Protease XXIV kits contain a universal digestive agent that allows for fast and effective pre-treatment at room temperature.

i500 Plus™

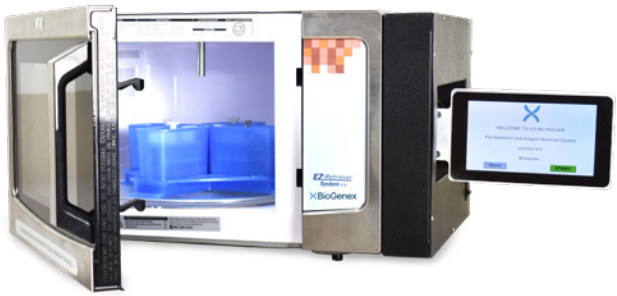
LIS Enabled Barcode & QR code Label Printer

Integrated Digitized Data Tracking System

- For printing chemical resistant barcode & QR code labels
- Barcode labels compatible with Xmatrx® and i6000™
- QR code labels compatible with NanoVIP®, NanoVIP®300 NanoMtrx®100 and NanoMtrx®300.
- User-friendly software
- Synchronization of protocol information
- Efficient system
    - Eliminates human error
    - Helps reduce operating cost
    - Fast turn-around

EZ-Retriever® IR System

- Precise temperature detection thru IR sensor
- Large touch screen for easy setup of protocols
- Dewax, rehydration, and antigen retrieval
- 96 slides under 30 min
- Superheating fluid: No boils and spills
- Ultraclean intense stain
- Antigen, nucleic acid and decal retrieval



Consumables & Ancillary Reagents

Microscope Slides & Coverslips

OptiPlus™ Positive-Charged Microscope Slides provide a strong adhesive surface for tissues and cells to prevent tissue displacement during harsh pre-treatments such as enzymatic digestion and the microwave Antigen Retrieval method. These slides are ideal for automated systems. Additionally, each slide has a frosted end for easy labeling.The OptiPlus™ Positive-Charged Barrier Slides have all the advantages of our regular OptiPlus™ slides, but also contain hydrophobic barriers that allow the quantity of reagents per slide to be tailored to the size of the specimen. These slides eliminate reagent waste without the need to use a PAP pen, thereby reducing set-up time in manual assays as well as in automated systems. The permanent hydrophobic barriers are compatible with dewaxing solutions and other reagents. The slides are suitable for use with frozen tissue sections, formalin-fixed paraffin sections, and cytology preparations.

Xmatrx® Automated Staining Systems

OptiPlus™ Barrier Slides for Xmatrx® (U.S. & Foreign equivalent patents pending) contain a double hydrophobic barriers that allows formation of an oil seal to prevent evaporation of microreagents during high temperature steps and prolonged incubations. Four different configurations are available:

1. A single test area of 25 x 40 mm (>80 µL of reagent recommended)
2. A single test area of 25 x 25 mm (>40 µL of reagent recommended)
3. A single test area of 18 x 18 mm (>10 µL of reagent recommended)
4. Two test area per slide, each measuring 18 x 18 mm

Coverslips are optimized for use on Xmatrx® staining systems and come in three configurations to accommodate the different barrier slides.

Microscope Barrier Slides & Coverslips for Xmatrx®

Product	1 Box	1 Case
Barrier Slides, 18 x 18 mm (72/box, 1440/case)	XT128-SL	XT128-CL
Barrier Slides, 18 x 18 mm, 2-Zone (72/box, 1440/case)	XT114-SL	XT114-CL
Barrier Slides, 25 x 25 mm (72/box, 1440/case)	XT108-SL	XT108-CL
Barrier Slides, 25 x 40 mm (72/box, 1440/case)	XT134-SL	XT134-CL
Coverslips, 18 x 18 mm (175/box, 1750/case)	XT121-YBX	XT121-XBK
Coverslips, 25 x 25 mm (90/box, 900/case)	XT122-90X	XT122-YQK
Coverslips, 25 x 40 mm (50/box, 500/case)	XT118-50X	XT118-YRK

Microscope Slides & Accesories for Manual

Product	1 Box	1 Case
Barrier Slide, 3 x 1/3 Test Areas	XT014-SL	XT014-CL
Barrier Slides, 2/3 Test Area	XT013-SL	XT013-CL
Microscopic Slides	XT002-SL	XT002-CL
PAP pen (For 500 to 1000 Slides)-1 unit	XT001-PP	N/A

Pipette tips

BioGenex pipette tips are made of high-quality polypropylene and are RNase and heavy metals-free when untampered. Inner surface is extremely smooth and requires minimum wetting. 1 mL pipette tips are optimized for use on BioGenex Xmatrx® Staining Systems, while 200 µL tips are optimized for Xmatrx® staining systems.

Pipette tips for Xmatrx®

Product	1 Box	1 Case
Pipette Tips, 1 mL (192/box, 960/case)	XT105-01X	XT104-05X
Pipette Tips, 200 µL (960/box, 4800/case)	XT146-01X	XT145-05X

Consumables kits for Xmatrx®

Item	SKU	Size	Barrier Slides 25 x40 mm	Barrier Slides 25 x40 mm	Coverslips 25 x 40 mm	Coverslips 25 x 40 mm	1 mL Pipette Tips	200 µL Pipette Tips
IHC kit	XT148-YCDE	200 test	216	NA	1000	NA	384	960
ISH kit	XT144-YAD	100 test	NA	104	NA	900	384	960

Accessories

1. Antigen Retrieval Accessories Kits

The Antigen Retrieval Accessory Kit consists of slide holders and slide baths that make it convenient and compatible with any of the several Antigen Retrieval solutions. To accommodate microwave heating, the slide baths and slide holders are made of heat-stable thermoplastic polyolefin and hydrocarbon polymers of acetal resins. These accessories may be used in a microwave or a pressure cooker.

Item	SKU	Slide Bath + Lid	Slide Holder
24- Slide Accessory kit	MW001-SU	1	1 (24- slide capacity)
72- Slide Accessory kit	MW001-HB	3	3 (72- slide capacity)

2. NordicWare® Microwave Pressure Cooker

Placing the NordicWare®Microwave Pressure Cooker within a microwave is an effective method for enhancing staining with the Antigen Retrieval technique. The heat produced under enhanced pressure can reduce the build up of gas bubbles on the surface of tissues. This improves the intensity of staining, accompanied by preservation of tissue and cell morphology. This pressure cooker is also optimized for use with various BioGenex Antigen Retrieval solutions. BioGenex Catalog number: NW001-PC.

3. PAP Pen for Tissue Staining

The PAP pen is a useful pen-like tool for immunohistochemical staining methods. It is designed to prevent the waste of valuable reagents by forming a water-repellent barrier around the specimen. This barrier creates the proper surface tension to hold an antibody solution or detection reagents within the target area on the slide. The surface tension provided by the PAP pen circle ensures that only the amount of antibody solution needed for sufficient reaction will be applied. Since over-flooding of the slide is eliminated, wiping of excess fluid around the specimen can be avoided. The PAP pen can be used for immunostaining of paraffin sections, frozen sections, and for fluorescent antibody methods. The PAP pen contains a special formulation, which is water repellent. It can be removed, if desired, with xylene or xylene substitutes after the staining procedure is completed. BioGenex Catalog Number: XT001-PP, sufficient for use on 500-1000 slides.

Buffers

Buffers and diluents are available for immunohistochemistry, *in situ* Hybridization Special Stains and most other applications.

- General buffers, such as PBS (pH 7.6) and TBS (pH 7.6, 0.1M) can be used for washing/rinsing of slides.
- Super Sensitive™ Wash Buffer is phosphate buffered saline (pH 7.4) with surfactant and isused to ensure optimal staining with even spreading of antibodies and other reagents to avoid inconsistent results.

Buffers - Manual & Automation

Product Name	500 mL(20x)
Phosphate Buffered saline	HK091-9K
Super Sensitive Wash Buffer	HK583-5K
Tris Buffer (Wash Buffer) 3/Pack (dry powder to make 3L)	HK098-5K

Counterstains and Mounting Media

BioGenex offers the following counterstains for use in Immunohistochemistry, *in situ* Hybridization and other applications with either manual or automated staining systems.

- Mayer's hematoxylin is a blue stain that does not contain alcohol and therefore is compatible with both alcohol soluble non-permanent chromogens (AEC, Fast Red & New Fuchsin) and alcohol-insoluble chromogens (DAB & Elegance Red). It is alcohol and xylene insoluble and therefore compatible with most clearing agents and mounting media.

Product Name	1 mL(RTU)	6 mL(RTU)	250 mL (RTU)
Hematoxylin, Mayer's (IHC, ISH)	NA	HK100-5K	HK100-9K

Mounting of all stained biological specimens is an essential step before their microscopic evaluation. Mounting also enables the slides to be archived for long periods of time. The mounting medium may be used to attach a coverslip or may itself serve as a coverslip substitute. The choice of mounting medium depends on whether long-term or short-term preservation is desired, and whether the mounting procedure is chemically compatible with the chromogen and the counterstain.

- SuperMount® Permanent Mounting Medium is a polymer based aqueous mounting media that does not require the use of a coverslip. This innovative, patented mounting medium (BioGenex's U.S. Patent No. 5,492,837) is designed to preserve biological specimens for long-term storage. SuperMount® medium is compatible with most aqueous and organic-soluble dyes and chromogens including AEC, DAB, Elegance Red, Fast Red, New Fuchsin, BCIP/NBT, Rhodamine, Fluorescein, Texas Red, Phycoerythrin, Phycocyanin, and Fat Stain (Oil Red O). The refractive index of SuperMount® yields greater transparency and clarity of specimens to be examined under the microscope. SuperMount® can be used for the mounting of all biological specimens, including stained tissue sections, cytospin preparations, and blood smears.
- Aqueous Mounting Medium is glycerol-based mounting medium that require the use of a coverslip. It is intended for short-term specimen storage and is compatible with most chromogens and counterstains.
- XMount™ Mounting Medium is a permanent mounting medium that has been optimized for use with BioGenex™ instrument for all BioGenex detection systems for immunohistochemistry (IHC), *In Situ* Hybridization (ISH) and special stains. XMount™ is intended for use with alcohol and xylene insoluble chromogens, such as DAB (for peroxidase systems) and Elegance Red (for alkaline phosphatase systems). XMount™ dries clear with an ideal refractive index similar to high quality glass and tissue elements. Mounted slides can be viewed with high magnification oil immersion lenses. Also, when mounting preparations stained with the BCIP/NBT substrate, crystal formation that may occur when using other media is minimized.

Mounting Medium

Product Name	15 mL(RTU)	50 mL(RTU)
Aqueous Mounting Medium - Manual	HK099-5K	NA
Super Mount® Permanent Mounting Medium - Manual	HK079-5K	HK079-7K
Xmount™ Mounting Media (200 tests) – Barcoded	HX035-YCD	NA
Xmount™ Mounting Media (200 tests) – Xmatrx® Infinity	HX035-10X	NA

MicroRNA Tissue Control

Positive Control Slides and Barrier Slides

Positive control slides are made with tissue which has undergone processing identical to that of the test tissue. BioGenex provides positive control slides that enable one to confirm miRNA detection.

Barrier slides are positive control tissue slides with barriers to prevent loss of reagent.

Pack size: Positive Control slides (5 slides per pack)
Barrier slides (5 slides per pack)

Cat.No	Product	Recommended Positive Control	BarrierSlidesCat.No
HM001-100	Hsa-miR-1 Probe	Heart	FB-HM001
HM007A-100	Has-miR-7a Probe	Prostate, Intestine, Pancrease	FB-HM007A
HM007B-100	Hsa-miR-let-7b Probe	Prostate Ca	FB-HM007B
HM007C-100	Hsa-miR-Let-7c	Breast	FB-HM007C
HM007D-100	Hsa-miR-let-7d Probe	Prostate Ca, Prostate	FB-HM007D
HM007-100	Hsa-miR-7e	Breast, Lung	FB-HM007E
HM007G-100	Hsa-miR-let-7g Probe	Intestine	FB-HM007G
HM009-100	Hsa-miR-9	Stomach Ca, Colon Ca	FB-HM009
HM010B-100	Has-miR-10b Probe	Prostate Ca, Small Cell Lung Ca	FB-HM010B
HM015A-100	Hsa-miR-15a Probe	Thyroid	FB-HM015A
HM015B-100	Hsa-miR-15B Probe	TCC, Bladder Ca	FB-HM015B
HM016-100	Hsa-miR-16 Probe	colon	FB-HM016
HM017-100	Has-miR-17 Probe	Prostate Ca, Colon Ca, Colon Ca	FB-HM017
HM017-3P-100	Hsa-miR-17-3p	Prostate Ca, Colon Ca, Colon Ca	FB-HM017-3P
HM018A-100	Hsa-miR-18a	TCC	FB-HM018A
HM019A-100	Hsa-miR-19a	TCC	FB-HM019A
HM019B-3P-100	Hsa-miR-19b-3p	Prostate Ca	FB-HM019B-3P
HM020A-100	Hsa-miR-20A Probe	Ovary Ca, Stomach Ca	FB-HM020A
HM021-100	Hsa-miR-21 Probe	Breast Ca	FB-HM021
HM021-3P-100	Hsa-miR-21-3p	Breast Ca	FB-HM021-3P
HM022-100	Hsa-miR-22 Probe	Breast	FB-HM022
HM023A-100*	Hsa-miR-023A	-	FB-HM023A
HM023B-100	Hsa-miR-23b	Prostate Ca	FB-HM023B
HM024-3P-100	Hsa-miR-24-3P	T Cell Lymphoma	FB-HM024-3P
HM025-100	Hsa-miR-25	N. Breast/ N. Pancreas	FB-HM025
HM026A-100	Hsa-miR-26A Probe	Ca.Liver / N.intestine	FB-HM026A
HM026B-100	Hsa-miR-26B Probe	Ovary Ca	FB-HM026B
HM027A-100	Hsa-miR-27A	Breast, Breast Ca	FB-HM027A
HM027B-100	Hsa-miR-27b	Breast, Prostate Ca	FB-HM027B
HM028-3P-100	Hsa-miR-28-3P Probe	Colon, Hemangioma	FB-HM028-3P
HM028-5P-100	Hsa-miR-28-5P Probe	Non-Hodgkin's lymphoma	FB-HM028-5P
HM29A-100	Hsa-miR-029A	TCC	FB-HM29A
HM29b-3p-100	Hsa-miR-029b-3p	Colon	FB-HM29b-3p
HM029C-100	Hsa-miR-29C	Lung Ca	FB-HM029C
HM030B-100	Hsa-miR-30B Probe	Stomach Ca	FB-HM030B
HM030C-100	Hsa-miR-30C	Breast Ca	FB-HM030C
HM030-100	Hsa-miR-30E	Breast	FB-HM030E
HM031-100	Hsa-miR-31 Probe	Lymphonode testis	FB-HM031

*Please inquire

NOTE: The list for positive control slides is constantly being updated, depending upon tissue availability. Please call 1(800) 421-4149 for availability or visit our website at www.biogenex.com

Cat.No	Product	Recommended Positive Control	BarrierSlidesCat.No
HM034A-100	Hsa-miR-34A Probe	Breast, Prostate, Colon	FB-HM034A
HM34C-100*	Hsa-miR-034C	-	FB-HM34C
HM0650-100	Hsa-miR-650 Probe	GIST	FB-HM0650
HM092A-100	Hsa-miR-92A Probe	Lymphonode testis	FB-HM092A
HM095-100	Hsa-miR-95 Probe	Small cell lung Ca	FB-HM095
HM096-100	Hsa-miR-96	TCC, Colon Ca, Breast Ca	FB-HM096
HM098-100	Hsa-miR-98	Ovary Ca	FB-HM098
HM099A-100	Hsa-miR-99A Probe	GIST	FB-HM099A
HM099B-100	Hsa-miR-99B Probe	Breast, Colon	FB-HM099B
HM100-100	Hsa-miR-100 Probe	Testis	FB-HM100
HM101-100	Hsa-miR-101	LN	FB-HM101
HM101-3P-100	Hsa-miR-101-3p	LN	FB-HM101-3P
HM106A-100	Has-miR-106a Probe	Liver Ca, TCC, Colon Ca	FB-HM106A
HM107-100	Hsa-miR-107 Probe	Small cell lung Ca	FB-HM107
HM1181-100	Hsa-miR-1181	N. Ovary/N.Pancreas	FB-HM1181
HM122-100	Hsa-miR-122 Probe	Bone, Pancrease	FB-HM122
HM124-100	Hsa-miR-124 Probe	Ca.Ovary	FB-HM124
HM1247-100	Hsa-miR-1247 Probe	TCC, Bladder Ca, Lung Ca	FB-HM1247
HM1258-100	Hsa-miR-1258	TCC, Thyroid, Breast	FB-HM1258
HM125A-100	Hsa-miR-125A Probe	Prostate, Pancrease, Ovary Ca	FB-HM125A
HM125B-100	Has-miR-125b Probe	Ovary	FB-HM125B
HM126-100	Has-miR-126 Probe	Cervix, Ovary, Prostate, Breast, Intestine	FB-HM126
HM127-3P-100	Hsa-miR-127-3P Probe	TCC	FB-HM127-3P
HM1285-100	Has-miR-1285 Probe	Cervix, Ovary, NC, Prostate, Intestine, Breast	FB-HM1285
HM129-100	Hsa-miR-129	Stomach Ca	FB-HM129
HM1296-100	Hsa-miR-1296	Testis	FB-HM1296
HM1297-100	Hsa-miR-1297	Colon	FB-HM1297
HM130B-100	Hsa-miR-130B	Oesophagus Ca	FB-HM130B
HM132-100	Hsa-miR-132	TCC	FB-HM132
HM133A-100	Hsa-miR-133A Probe	Prostate Ca	FB-HM133A
HM133B-100	Hsa-miR-133B Probe	TCC	FB-HM133B
HM135A-100	Hsa-miR-135A Probe	Prostate Ca	FB-HM135A
HM135B-100	Hsa-miR-135B Probe	TCC	FB-HM135B
HM136-100	Hsa-miR-136	Small Cell Lung Ca, Stomach Ca	FB-HM136
HM137-100	Hsa-miR-137	TCC	FB-HM137
HM138-100	Hsa-miR-138	Colon Ca	FB-HM138
HM140-100	Hsa-miR-140	Ovary Ca	FB-HM140
HM141-100	Has-miR-141 Probe	TCC, Prostate	FB-HM141
HM142-100	Hsa-miR-142	Ca.Lung/Ca.Breast	FB-HM142
HM142-3P-100	Hsa-miR-142-3P Probe	Ca.Lung/Ca.Breast	FB-HM142-3P
HM143-100	Hsa-miR-143	Pancrease, Prostate Ca, Colon Ca	FB-HM143
HM144-100	Has-miR-144 Probe	Urinary bladder/Prostate	FB-HM144
HM145-100	Has-miR-144 Probe	Human prostate tissues	FB-HM145
HM146A-100	Hsa-miR-146a Probe	Breast, Intestine, Ovary	FB-HM146A
HM146B-100	Hsa-miR-146B	Prostate, TCC, Breast Ca	FB-HM146B
HM147B-100	Has-miR-147b Probe	Breast, Prostate	FB-HM147B
HM148A-100	Hsa-miR-148A Probe	Prostate, Colon, Breast, Testis	FB-HM148A

*Please inquire

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Cat.No	Product	Recommended Positive Control	BarrierSlidesCat.No
HM148B-100	Hsa-miR-148B Probe	Intestine, Breast, Lung	FB-HM148B
HM149-100	Hsa-miR-149	N.Breast/N.Colon	FB-HM149
HM150-100	Hsa-miR-150 Probe	Lymphonode testis	FB-HM150
HM151A-3p-100	Has-miR-151a-3p Probe	Breast, Thyroid, Esophagus, GB	FB-HM151A-3p
HM152-100	Has-miR-152 Probe	Thyroid, Ovary, Breast, Skin	FB-HM152
HM153-100	Hsa-miR-153	Colon Ca, TCC	FB-HM153
HM154-100	Hsa-miR-154	Lung	FB-HM154
HM155-100	Hsa-miR-155 Probe	Hodgkins Lymphoma	FB-HM155
HM181A-100	Hsa-miR-181A Probe	Sqc. Ca, TCC, Colon Ca	FB-HM181A
HM181B-100	Hsa-miR-181B Probe	TCC	FB-HM181B
HM181C-100	Hsa-miR-181C Probe	Breast Ca	FB-HM181C
HM182-100	Hsa-miR-182	Bladder Ca, Colon Ca, Lung Ca	FB-HM182
HM1826-100	Hsa-miR-1826 Probe	TCC, Bladder Ca	FB-HM1826
HM183-100	Hsa-miR-183	Breast Ca, TCC, Colon Ca, Ad. Ca. Intestine	FB-HM183
HM183-3p-100	Hsa-miR-183-3p	Breast Ca, TCC, Colon Ca, Ad. Ca. Intestine	FB-HM183-3p
HM184-100	Hsa-miR-184	BCC	FB-HM184
HM185-100	Hsa-miR-185	Kidney Ca, GIST	FB-HM185
HM186-100	Hsa-miR-186	Thyroid, Breast, TCC, Colon	FB-HM186
HM187-100	Hsa-miR-187 Probe	Prostate	FB-HM187
HM191-100	Hsa-miR-191 Probe	Lymphonode testis	FB-HM191
HM192-100	Hsa-miR-192 Probe	Colon	FB-HM192
HM193A-3P-100	Hsa-miR-193A-3P	Breast	FB-HM193A-3P
HM193B-100	Hsa-miR-193B	TCC	FB-HM193B
HM194-100	Hsa-miR-194 Probe	TCC	FB-HM194
HM195-100	Hsa-miR-195 Probe	Lymphonode testis	FB-HM195
HM196A-100	Has-miR-196a Probe	Lymphonode testis	FB-HM196A
HM197-100	Hsa-miR-197	N. Liver	FB-HM197
HM198-100*	Hsa-miR-198	-	FB-HM198
HM199A-100	Hsa-miR-199a	Liver Ca	FB-HM199A
HM200A-100	Has-miR-200a Probe	Breast, Prostate, Intestine	FB-HM200A
HM200B-100	Has-miR-200b Probe	TCC, Prostate	FB-HM200B
HM200C-100	Hsa-miR-200C	TCC, Prostate	FB-HM200C
HM203A-3P-100	Hsa-miR-203A	Ad. Ca, Esophagus Ca, TCC, RCC	FB-HM203A-3P
HM204-100	Has-miR-204 Probe	Breast	FB-HM204
HM205-100	Has-miR-205 Probe	Lymphonode testis	FB-HM205
HM206-100	Hsa-miR-206 Probe	Intestine, Breast	FB-HM206
HM210-100	Hsa-miR-210 Probe	Breast Ca, RCC	FB-HM210
HM211-100	Hsa-miR-211	Kidney	FB-HM211
HM212-100	Hsa-miR-212 Probe	Lung, Prostate, Liver Ca, Prostate Ca, GIST	FB-HM212
HM214-100	Hsa-miR-214 Probe	Ovary Ca	FB-HM214
HM215-100	Hsa-miR-215 Probe	Colon Ca, Prostate Ca	FB-HM215
HM216A-100	Has-miR-216a Probe	Lymphonode testis	FB-HM216A
HM216B-100	Hsa-miR-216B	Stomach Ca, Esophagus	FB-HM216B
HM217-100	Hsa-miR-217	N. Prostrate/ Ca. Liver	FB-HM217
HM218-100	Hsa-miR-218	Normal cervix/Ca. breast	FB-HM218
HM221-3P-100	Hsa-miR-221-3p	Kidney, Colon	FB-HM221-3P
HM222-100	Hsa-miR-222 Probe	Ca. Breast/ Ca. Lung	FB-HM222

*Please inquire

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Cat.No	Product	Recommended Positive Control	BarrierSlidesCat.No
HM223-100	Hsa-miR-223	N. Breast	FB-HM223
HM224-100	Hsa-miR-224 Probe	Breast Ca	FB-HM224
HM24-2-100	Hsa-miR-24-2	Sqc. Ca	FB-HM24-2
HM296-100	Hsa-miR-296	TCC, Prostate	FB-HM296
HM297-100	Hsa-miR-297	TCC	FB-HM297
HM300-100	Hsa-miR-300	Gall bladder, Ad. Ca, TCC	FB-HM300
HM328-100	Hsa-miR-328 Probe	Lymphonode testis, Tonsil	FB-HM328
HM329-100	Hsa-miR-329 Probe	Breast, Prostate	FB-HM329
HM330-100	Hsa-miR-330	Prostate, LN, TCC	FB-HM330
HM331-3P-100	Hsa-miR-331-3p	Prostrate Ca	FB-HM331-3P
HM335-100	Hsa-miR-335	Breast, Intestine, Ovary, Colon Ca	FB-HM335
HM337-100	Hsa-miR-337	Lymph Node	FB-HM337
HM338-3p-100	Hsa-miR-338-3p	Breast	FB-HM338-3p
HM339-5p-100	Hsa-miR-339-5p	Kidney, TCC	FB-HM339-5p
HM342-3p-100	Hsa-miR-342-3p	Testis	FB-HM342-3p
HM361-100	Hsa-miR-361 Probe	Prostate	FB-HM361
HM362-100	Hsa-miR-362 Probe	Prostate Ca, Lung, Lymphonode testis	FB-HM362
HM365A-3P-100	Hsa-miR-365A-3P	Ca. Prostate/Ca.Ovary	FB-HM365A-3P
HM372-100	Hsa-miR-372	Cervix	FB-HM372
HM373-100	Hsa-miR-373 Probe	Lymphonode testis	FB-HM373
HM374A-100	Hsa-miR-374A	Colon Ca, Colon, Breast Ca	FB-HM374A
HM374B-100	Hsa-miR-374B	Lymph Node	FB-HM374B
HM375-100	Has-miR-375 Probe	Colon, Hemangioma. Kidney	FB-HM375
HM376C-100	Hsa-miR-376C	Bone	FB-HM376C
HM378A-100	Hsa-miR-378A	Bladder Ca, Liver Ca, GIST	FB-HM378A
HM379-100	Hsa-miR-379	Prostate, TCC	FB-HM379
HM381-100	Hsa-miR-381	TCC, Breast	FB-HM381
HM383-100	Hsa-miR-383	Prostate Ca, Melanoma	FB-HM383
HM409-3P-100	Hsa-miR-409-3P Probe	Breast, Prostate	FB-HM409-3P
HM410-100	Hsa-miR-410 Probe	TCC, GIST	FB-HM410
HM412-100	Hsa-miR-412 Probe	GIST	FB-HM412
HM422A-100	Hsa-miR-422A	Stomach	FB-HM422A
HM423-3P-100	Hsa-miR-423-3p	TCC, Breast Ca	FB-HM423-3P
HM424-100	Hsa-miR-424 Probe	Breast Ca	FB-HM424
HM425-100	Hsa-miR-425	Breast	FB-HM425
HM429-100	Hsa-miR-429 Probe	Prostate, Ovary, Colon	FB-HM429
HM449A-100	Hsa-miR-449A Probe	Colon, Breast	FB-HM449A
HM450B-3P-100	Hsa-miR-450B-3P	Thyroid, Ovary	FB-HM450B-3P
HM451-100	Hsa-miR-451 Probe	Thyroid, Lung, Ovary	FB-HM451
HM4723-100	Hsa-miR-4723-5p	TCC	FB-HM4723
HM483-100	Hsa-miR-483	Lymphonode testis	FB-HM483
HM486-100	Hsa-miR-486 Probe	Lung	FB-HM486
HM486-3P-100	Hsa-miR-486-3P	Lung	FB-HM486-3P
HM494-100	Hsa-miR-494 Probe	Breast Ca	FB-HM494
HM495-100	Hsa-miR-495	TCC, Ovary, Breast Ca	FB-HM495
HM497-100	Hsa-miR-497 Probe	BCC, TCC	FB-HM497
HM502-100	Hsa-miR-502	Gall bladder	FB-HM502

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Cat.No	Product	Recommended Positive Control	BarrierSlidesCat.No
HM505-100	Hsa-miR-505	Breast, Intestine, Ovary, Prostate Ca	FB-HM505
HM508-3p-100	Hsa-miR-508-3p	Breast	FB-HM508-3p
HM509-3p-100	Hsa-miR-509-3p	TCC	FB-HM509-3p
HM510-100	Hsa-miR-510	Thyroid	FB-HM510
HM511-100	Hsa-miR-511	Thyroid, Breast	FB-HM511
HM517A-3p-100	Hsa-miR-517A-3p	Thyroid	FB-HM517A-3p
HM520C-100	Hsa-miR-520C	Breast	FB-HM520C
HM532-5p-100	Hsa-miR-532-5p	Ovary	FB-HM532-5p
HM541-100	Hsa-miR-541	Pancrease	FB-HM541
HM544-100	Hsa-miR-544 Probe	Intestine, Breast	FB-HM544
HM545-5P-100	Hsa-miR-545-5P	Breast	FB-HM545-5P
HM573-100	Hsa-miR-573	Skin	FB-HM573
HM574-3p-100	Hsa-miR-574-3p	Breast, TCC	FB-HM574-3p
HM590-100	Hsa-miR-590 Probe	Stomach Ca	FB-HM590
HM610-100	Hsa-miR-610	Breast	FB-HM610
HM614-100	Hsa-miR-614	BCC, Skin	FB-HM614
HM615-100	Hsa-miR-615	Breast, Intestine, Ovary, TCC	FB-HM615
HM622-100	Hsa-miR-622 Probe	Breast, Colon	FB-HM622
HM625-100	Hsa-miR-625 Probe	Intestine, Breast	FB-HM625
HM627-100	Hsa-miR-627	Breast	FB-HM627
HM628-100	Hsa-miR-628 Probe	Prostate	FB-HM628
HM629-100	Hsa-miR-629	Non-Hodgkin's lymphoma, Prostate Ca	FB-HM629
HM630-100	Hsa-miR-630	Breast Ca	FB-HM630
HM638-100	Hsa-miR-638	Colon Ca, TCC	FB-HM638
HM641-100	Hsa-miR-641	Breast, GB, Thyroid, Ovary	FB-HM641
HM642A-5p-100	Hsa-miR-642A-5p	Breast, Prostate, Lung	FB-HM642A-5p
HM648-100	Hsa-miR-648 Probe	RCC	FB-HM648
HM663A-100	Hsa-miR-663A Probe	Prostate	FB-HM663A
HM708-100	Hsa-miR-708	Bladder Ca	FB-HM708
HM718-100	Hsa-miR-718 Probe	Ovary, Instestine, LN	FB-HM718
HM765-100	Hsa-miR-765	Lung	FB-HM765
HM802-100	Hsa-miR-802	Intestine	FB-HM802
HM874-100	Hsa-miR-874	Intestine	FB-HM874
HM940-100	Hsa-miR-940	GIST	FB-HM940
HM944-100	Hsa-miR-944	Breast	FB-HM944
HM9500-100	Hsa-miR-9500	TCC	FB-HM9500
HM128-100	Hsa-miR-128	Brain Tumor	FB-HM128
HM139-100	Hsa-miR-139	Bladder	FB-HM139
HM190a-100	Hsa-miR-190a	Breast Cancer	FB-HM190a
HM190b-100	Hsa-miR-190b	Lung Ca.	FB-HM190b
HM193b-100	Hsa-miR-193b	Colorectal Ca	FB-HM193b
HM302b-100	Hsa-miR-302b	Gastric Ca.	FB-HM302b
HM326-100	Hsa-miR-326	Colorectal Ca.	FB-HM326
HM378a-100	Hsa-miR-378a	Colorectal Ca.	FB-HM378a
HM382-100	Hsa-miR-382	Lung Ca.	FB-HM382
HM384-100	Hsa-miR-384	RCC	FB-HM384
HM433-100	Hsa-miR-433	Colorectal Ca.	FB-HM433

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Cat.No	Product	Recommended Positive Control	BarrierSlidesCat.No
HM489-100	Hsa-miR-489	Breast Ca.	FB-HM489
HM491-100	Hsa-miR-491	Breast Ca.	FB-HM491
HM498-100	Hsa-miR-498	Lung Ca.	FB-HM498
HM514a-100	Hsa-miR-514a	Melanoma	FB-HM514a
HM524-100	Hsa-miR-524	Melanoma	FB-HM524
HM675-100	Hsa-miR-675	Skin	FB-HM675
HM766-100	Hsa-miR-766	Kidney	FB-HM766
HM1244-1-100	Hsa-miR-1244-1	Tonsil	FB-HM1244-1
HM3978-100	Hsa-miR-3978	Prostate ca.	FB-HM3978

NOTE: The list for positive control slides is constantly being updated, depending upon tissue availability. Please call 1(800) 421-4149 for availability or visit our website at www.biogenex.com

General Terms and Conditions

1. Order Information

- Credit Terms: BioGenex will review the customer credit application and finalize the terms (Credit Limit and Net Days) based on inputs provided and credit rating.
- Order Confirmation: To avoid shipment duplication, please indicate in bold "**CONFIRMING ORDER - PLEASE DO NOT SHIP"** on your order.

2. Conditions of Sale

- All prices are quoted in U.S. dollars, exclusive of Sales Tax (State and County) , as applicable.
- If an order is not taxable, a tax exemption certificate must be provided.
- Products and prices are subject to change without any prior notice.
- Discounts: Please inquire about BioGenex quantity discount policies at 1-800-421-4149.
- Payment: All payments must be made in U.S. dollars. You may choose any mode of payment (Note: Online payment systems are implemented).

3. Return and Refund Policy

BioGenex reagents are covered by Quality Assurance (QA) policy:

- Returns will only be accepted with BioGenex Return Material Authorization (RMA). Please contact customer service for further assistance.
- BioGenex has a limited liability for a refund or replacement. The same is solely under the discretion of BioGenex management.
- A full refund will be provided when a product cannot perform according to data specifications.
- If client makes an error in ordering a product, a refund may be provided along with a 30% restocking fee.
- Express Delivery: Express delivery options are also available on request at an extra cost.
- BioGenex customer service for assistance:
  Tel: 1-800-421-4149, Monday through Friday 7 AM – 4 PM PST or
  E-mail at: customer.service@biogenex.com

4. Other Terms and Conditions

- BioGenex is committed to quality, innovation, service, and support. We believe that the high degree of quality control performed on all our products will help you with consistent and reproducible results.
- All orders are subject to acceptance by BioGenex and product availability.
- Delivery dates are estimates and BioGenex shall have no liability for any delays.
- There are no expressed, implied or statutory warranties, including without limitation, the implied warranties of merchantability, fitness for a particular purpose and non-infringement of third party rights.
- Freight charges are prepaid and added to the invoice.
- BioGenex shall not be liable for any incidental, indirect, special or consequential damages, even if it is aware of the possibility of such damages. BioGenex's total liability for any order shall not exceed the amount paid by customer under such order.
- These terms and conditions constitute the entire agreement between the parties with respect to the products purchased hereunder.
- Any additional, different or inconsistent terms and conditions in a purchase order form or like forms used by customer to purchase, change, accept or otherwise process the orders are objected to and not binding on BioGenex.
- This agreement between the parties shall be governed by the laws of the State of California without regard to its conflicts of laws.
- Any dispute arising out of or related to this Agreement shall be resolved solely in the U.S. District Court for the Northern District of California or in San Francisco County, and in no other courts, and Customer hereby consents to the jurisdiction of, venue in and service of process from the aforementioned courts.

Super Sensitive Nucleic Acid System
miRNA *In Situ* hybridization

Probe Design

- High specificity and sensitivity stemming from high-melting temperature probe
- Labeled with high-density reporter molecules to enable single copy gene visualization

miRNA *In Situ* hybridization

- Designed to provide intense super clean stains
- Localization of target cells in the spatial context
- Multiplexing miRNA, IHC & FISH targets

System Provides

- Optimized protocols
- Automation from microtome to microscope
- Ready to use probes and visualization system
  Ready to use reagents
  including stringency washes

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China: Shanghai Exhibition Center, No.1000 Middle Yan An Road, Shang Hai 200, China, 200041

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