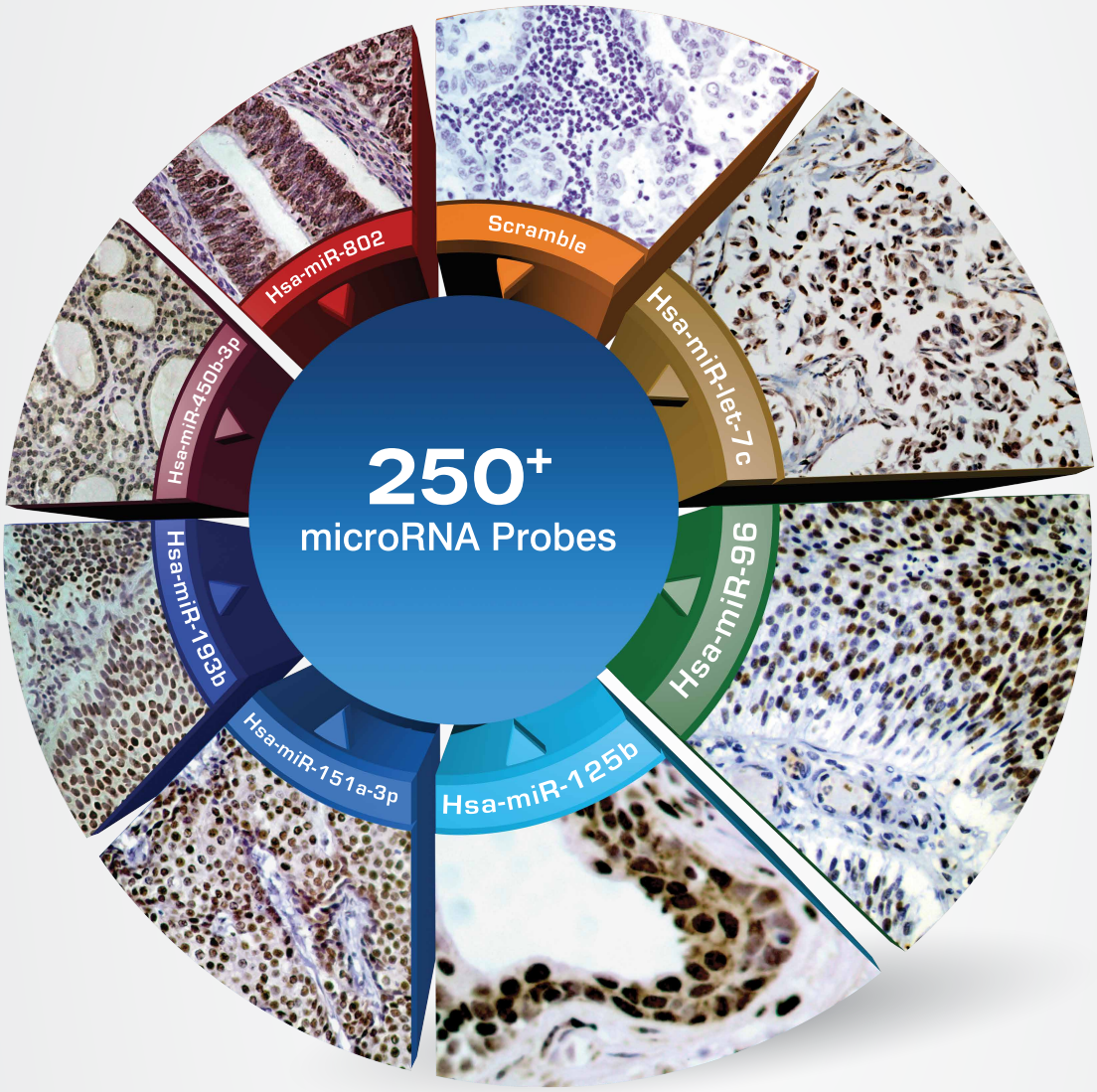
miRNA Probes

in situ staining in FFPE tissues



Next-gen *in situ* tissue signature markers

Potential tool for characterization of CUP

BioGenex

Accelerating the pace of precision Oncology

microRNA *in situ* Hybridization (miRNA ISH)

microRNAs (miRNAs) are a recent addition to the diagnostic toolkit for cancer clinicians. MiRNAs are remarkably stable and are well preserved due to their very short sequences and resistance to endogenous enzymes. Unlike the traditional method of assessing miRNA by total RNA extraction followed by qRT-PCR or microarray techniques, utilizing in situ hybridization in formalin-fixed paraffin-embedded tissues (FFPE) reduces the loss of spatial context caused by tissue lysing.

The miRNA expression profiles are used to assess the cancer type or conditionslike:

1. Cancer of unknown primary
2. Undifferentiated and poorly differentiated tumors
3. Classification of cancer subtypes
4. Grading and staging of cancer

miRNA Probes

BioGenex miRNA probes portfolio includes over **250 unique miRNA probes,** that can be used for differentiation of malignant and benign tumors, early-stage cancer detection marker, identification of cancer of unknown primary (CUP), differentiation of cancer subtypes, grading, staging of cancer subtypes, and classifying undifferentiated and poorly differentiated tumors.

miRNA Biomarker Panels

Renal Cell Carcinoma Classification Panel

Glioma Subtyping and Grading Panel

Squamous Cell Carcinoma and Adenocarcinoma Differentiation Panel

Differentiation of Cholangiocarcinoma and Pancreatic Ductal

Differentiation of Triple-Negative Breast Cancer

Differentiation of Prostate Cancer (PC) and Benign Prostatic Hyperplasia (BPH)

Differentiation of Wild Type and Mutated BRCA

Gastric Differentiation and Subtyping Panel

Differentiation of moderate and poorly differentiated cervical squamous cell cancer

miRNA Probes

Product Name	Cat. No.
Hsa-miR-7a	HM007A-100
Hsa-miR-Let-7c	HM007C-100
Hsa-miR-7e	HM007E-100
Hsa-miR-9	HM009-100
Hsa-miR-10b	HM010B-100
Hsa-miR-15a	HM015A-100
Hsa-miR-17	HM017-100
Hsa-miR-17-3p	HM017-3P-100
Hsa-miR-18a	HM018A-100
Hsa-miR-19b-3p	HM019B-3P-100
Hsa-miR-21	HM021-100
Hsa-miR-23b	HM023B-100
Hsa-miR-27A	HM027A-100
Hsa-miR-27b	HM027B-100
Hsa-miR-29C	HM029C-100
Hsa-miR-30C	HM030C-100
Hsa-miR-30E	HM030E-100
Hsa-miR-96	HM096-100
Hsa-miR-101-3p	HM101-3P-100
Hsa-miR-106a	HM106A-100
Hsa-miR-125b	HM125B-100
Hsa-miR-126	HM126-100
Hsa-miR-127-3P	HM127-3P-100
Hsa-miR-1285	HM1285-100
Hsa-miR-133A	HM133A-100
Hsa-miR-133B	HM133B-100
Hsa-miR-135A	HM135A-100
Hsa-miR-135B	HM135B-100
Hsa-miR-141	HM141-100
Hsa-miR-143	HM143-100
Hsa-miR-144	HM144-100

Product Name	Cat. No.
Hsa-miR-146B	HM146B-100
Hsa-miR-147b	HM147B-100
Hsa-miR-151a-3p	HM151A-3p-100
Hsa-miR-152	HM152-100
Hsa-miR-181C	HM181C-100
Hsa-miR-182	HM182-100
Hsa-miR-187	HM187-100
Hsa-miR-191	HM191-100
Hsa-miR-194	HM194-100
Hsa-miR-196a	HM196A-100
Hsa-miR-199a	HM199A-100
Hsa-miR-200a	HM200A-100
Hsa-miR-200b	HM200B-100
Hsa-miR-200C	HM200C-100
Hsa-miR-203A	HM203A-3P-100
Hsa-miR-204	HM204-100
Hsa-miR-205	HM205-100
Hsa-miR-215	HM215-100
Hsa-miR-216a	HM216A-100
Hsa-miR-218	HM218-100
Hsa-miR-221-3p	HM221-3P-100
Hsa-miR-331-3p	HM331-3P-100
Hsa-miR-335	HM335-100
Hsa-miR-375	HM375-100
Hsa-miR-378A	HM378A-100
Hsa-miR-383	HM383-100
Hsa-miR-412	HM412-100
Hsa-miR-422A	HM422A-100
Hsa-miR-423-3p	HM423-3P-100
Hsa-miR-483	HM483-100
Hsa-miR-505	HM505-100

miRNA Probes

Product Name	Cat. No.
Hsa-miR-615	HM615-100
Hsa-miR-622	HM622-100
Hsa-miR-629	HM629-100
Hsa-miR-641	HM641-100
Hsa-miR-648	HM648-100
Hsa-miR-663A	HM663A-100
Hsa-miR-708	HM708-100
Hsa-miR-1	HM001-100
Hsa-miR-let-7b	HM007B-100
Hsa-miR-let-7d	HM007D-100
Hsa-miR-let-7g	HM007G-100
Hsa-miR-15B	HM015B-100
Hsa-miR-19a	HM019A-100
Hsa-miR-20A	HM020A-100
Hsa-miR-21-3p	HM021-3P-100
Hsa-miR-22	HM022-100
Hsa-miR-24-3P	HM024-3P-100
Hsa-miR-26A	HM026A-100
Hsa-miR-28-3P	HM028-3P-100
Hsa-miR-28-5P	HM028-5P-100
Hsa-miR-30B	HM030B-100
Hsa-miR-31	HM031-100
Hsa-miR-34A	HM034A-100
Hsa-miR-650	HM0650-100
Hsa-miR-92A	HM092A-100
Hsa-miR-95	HM095-100
Hsa-miR-98	HM098-100
Hsa-miR-99A	HM099A-100
Hsa-miR-99B	HM099B-100
Hsa-miR-100	HM100-100
Hsa-miR-107	HM107-100

Product Name	Cat. No.
Hsa-miR-1181	HM1181-100
Hsa-miR-122	HM122-100
Hsa-miR-124	HM124-100
Hsa-miR-1247	HM1247-100
Hsa-miR-125A	HM125A-100
Hsa-miR-138	HM138-100
Hsa-miR-142-3P	HM142-3P-100
Hsa-miR-146a	HM146A-100
Hsa-miR-148A	HM148A-100
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Hsa-miR-153	HM153-100
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Hsa-miR-181B	HM181B-100
Hsa-miR-1826	HM1826-100
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Hsa-miR-212	HM212-100
Hsa-miR-214	HM214-100
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Hsa-miR-329	HM329-100
Hsa-miR-361	HM361-100
Hsa-miR-362	HM362-100
Hsa-miR-365A-3P	HM365A-3P-100

miRNA Probes

Product Name	Cat. No.
Hsa-miR-373	HM373-100
Hsa-miR-409-3P	HM409-3P-100
Hsa-miR-410	HM410-100
Hsa-miR-424	HM424-100
Hsa-miR-429	HM429-100
Hsa-miR-449A	HM449A-100
Hsa-miR-451	HM451-100
Hsa-miR-486	HM486-100
Hsa-miR-494	HM494-100
Hsa-miR-497	HM497-100
Hsa-miR-544	HM544-100
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Hsa-miR-590	HM590-100
Hsa-miR-610	HM610-100
Hsa-miR-625	HM625-100
Hsa-miR-627	HM627-100
Hsa-miR-628	HM628-100
Hsa-miR-630	HM630-100
Hsa-miR-718	HM718-100
Hsa-miR-802	HM802-100
Hsa-miR-9500	HM9500-100
Hsa-miR-128	HM128-100
Hsa-miR-139	HM139-100
Hsa-miR-190a	HM190a-100
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Hsa-miR-193b	HM193b-100
Hsa-miR-302b	HM302b-100
Hsa-miR-326	HM326-100
Hsa-miR-382	HM382-100
Hsa-miR-384	HM384-100
Hsa-miR-433	HM433-100

Product Name	Cat. No.
Hsa-miR-489	HM489-100
Hsa-miR-491	HM491-100
Hsa-miR-498	HM498-100
Hsa-miR-514a	HM514a-100
Hsa-miR-524	HM524-100
Hsa-miR-675	HM675-100
Hsa-miR-766	HM766-100
Hsa-miR-1244	HM1244-100
Hsa-miR-3978	HM3978-100
Hsa-miR-16-5p	HM16-5p-100
Hsa-miR-451a	HM451a-100
Hsa-409-5p	HM409-5p-100
Hsa-miR-544a	HM544a-100
Hsa-miR-26b	HM26b-100
Hsa-miR-122	HM122-100
Hsa-miR-183-3p	HM183-3p-100
Hsa-miR-198	HM198-100
Hsa-miR-511	HM511-100
Hsa-miR-337	HM337-100
Hsa-miR-486-3p	HM486-3p-100
Hsa-miR-614	HM614-100
Hsa-miR-216b	HM216b-100
Hsa-miR-23a	HM23a-100
Hsa-miR-24-2-5p	HM24-2-5p-100
Hsa-miR-6075	HM6075-100
Hsa-miR-7843	HM7843-100
Hsa-miR-802	HM802-100
Hsa-miR-101	HM101-100
Hsa-miR-138	HM138-100
Hsa-miR-142	HM142-100
Hsa-miR-193a-3p	HM193a-3p-100

miRNA Probes

Product Name	Cat. No.
Hsa-miR-197	HM197-100
Hsa-miR-217	HM217-100
Hsa-miR-223	HM223-100
Hsa-miR-140	HM140-100
Hsa-miR-16	HM16-100
Hsa-miR-186	HM186-100
Hsa-miR-193b	HM193b-100
Hsa-miR-25	HM25-100
Hsa-miR-338-3p	HM338-3p-100
Hsa-miR-1297	HM1297-100
Hsa-miR-381	HM381-100
Hsa-miR-1258	HM1258-100
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Hsa-miR-132	HM132-100
Hsa-miR-185	HM185-100
Hsa-miR-34c	HM34c-100
Hsa-miR-7515	HM7515-100
Hsa-miR-136	HM136-100
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Hsa-miR-300	HM300-100
Hsa-miR-296	HM296-100
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Hsa-miR-379	HM379-100
Hsa-miR-425	HM425-100
Hsa-miR-450b-3p	HM450b-3p-100
Hsa-miR-495	HM495-100
Hsa-miR-502	HM502-100
Hsa-miR-510	HM510-100
Hsa-miR-517a-3p	HM517a-3p-100
Hsa-miR-520	HM520-100

Product Name	Cat. No.
Hsa-miR-574-3p	HM574-3p-100
Hsa-miR-638	HM638-100
Hsa-miR-874	HM874-100
Hsa-miR-183	HM183-100
Hsa-miR-508-3p	HM508-3p-100
Hsa-miR-509-3p	HM509-3p-100
Hsa-miR-342-3p	HM342-3p-100
Hsa-miR-372	HM372-100
Hsa-miR-944	HM944-100
Hsa-miR-137	HM137-100
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Hsa-miR-532	HM532-100
Hsa-miR-573	HM573-100
Hsa-miR-1296	HM1296-100
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Hsa-miR-154	HM154-100
Hsa-miR-541	HM541-100
Hsa-miR-29b-3p	HM29b-3p-100
Hsa-miR-330	HM330-100
Hsa-miR-374b	HM374b-100
Hsa-miR-4723	HM4723-100
Hsa-miR-642a	HM642a-100
Hsa-miR-765	HM765-100
Hsa-miR-940	HM940-100

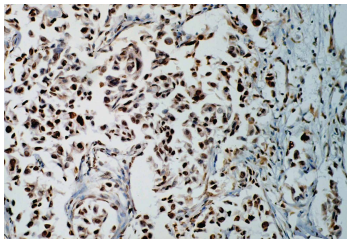
BioGenex Super Sensitive™ Nucleic Acid (SSNA) miRNA Probes:

BioGenex has developed proprietary Super Sensitive™ Nucleic Acid (SSNA) miRNA probes that are specially designed to enhance signals from the intrinsically low populated miRNAs. These probes have high melting temperatures enabling stringent washes at elevated temperatures to remove non-specific binding. BioGenex miRNA probes are dual-end labeled with a fluorophore that amplifies the signal, giving intense stains. BioGenex SSNA microRNA probes combined with visualization system allows the visualization of target miRNAs in specific cells in the spatial context and aid in studying the lowly expressed miRNA populations to assess the physiological function of miRNA.

BioGenex miRNA portfolio includes over 250 unique miRNA probes, the ONLY commercially available extensive list of probes for miRNA *in situ* hybridization.

We also support a one-stop solution for all miRNA related research including automated instruments, probes, nucleic acid retrievals, detection systems, and ancillaries.

Product	50 tests Manual/Xmatrx Infinity	100 tests Xmatrx Elite
Super Sensitive One-Step Polymer-HRP ISH Detection Kit	**DF400-50KE**	**N/A**
XISH One-Step Polymer-HRP ISH Detection Kit	**N/A**	**DF400-YADE**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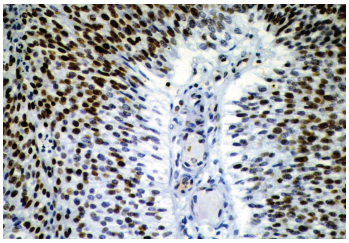
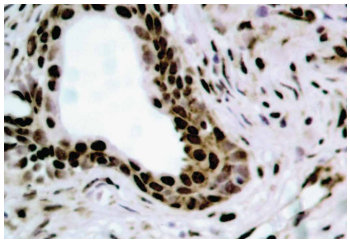
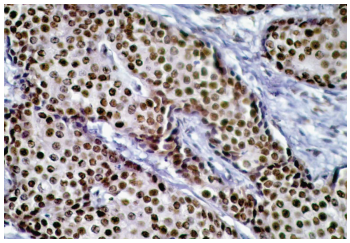

Hsa-miR-96


Hsa-miR-125b


Hsa-miR-151a-3p

About BioGenex

BioGenex designs, develops and commercializes molecular pathology systems for cancer diagnosis, prognosis, precision medicine and life science research. The recent introduction of miRNA system for characterization of Cancer of Unknown Primary (CUP) and undifferentiated tumors are a game changer and envy of the industry. Our fully-automated molecular pathology workstations are the most advanced system available globally.

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