BioGenex
Accelerating the pace of precision medicine
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DATA SHEET
Beta Actin Probe

Catalog No.	Description
PR1055-100E	One vial of 0.650 ml fluoresceinated oligonucleotide Beta Actin Probe

Doc No: 932- PR1055-100E Rev: D
Date of Release: 24-Jul-2024

REAGENT SUPPLIED
1 x 0.650 ml of pre-diluted fluoresceinated oligonucleotide Beta Actin Probe in hybridization solution.

STORAGE AND HANDLING
Store the probe at 2-8° C. Warm to room temperature immediately prior to use.

SPECIFICATIONS
The oligonucleotide probe detects human Beta Actin mRNA in formalin-fixed, paraffin-embedded human tissues by *in situ* hybridization.

DESCRIPTION
The Beta Actin probe detects Beta Actin-encoded RNA in formalin-fixed, paraffin-embedded human tissues by in situ hybridization. Beta Actin-encoded RNA, remains a widely used housekeeping gene internal control for human FFPE tissues. However ACTB is closely associated with a variety of cancers and accumulating evidence indicates that ACTB is de-regulated in liver, melanoma, renal, colorectal, gastric, pancreatic, esophageal, lung, breast, prostate, ovarian cancers, leukemia and lymphoma. The detection of Beta Actin mRNA with BioGenex automated in situ hybridization technique will provide evidence of intact mRNA in tissues.

QUALITY CONTROL
For Quality Control purpose, each lot of this probe is tested by *in situ* hybridization using formalin-fixed, paraffin-embedded tonsil as control tissue.

PRECAUTIONS:
The probe contains formamide. Formamide is classified as a teratogen. Pregnant workers should keep exposure to a minimum. Avoid inhalation, ingestion, and contact with unprotected skin. If skin contact occurs, wash thoroughly with soap and water.
For more information, refer to the Material Safety Data Sheet, which is available upon request

Storage and Handling
Store the probe at 2-8° C. The probe is allowed to reach room temperature prior to use.
This probe is suitable for use till expiry date when stored at 2-8°C. If reagents are stored under any conditions other than those specified in the package insert, they must be verified by the user.
Positive and negative controls should be run simultaneously for every experiment. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact BioGenex Technical Support at **1-800-421-4149 or your local distributor**.

Specimen Collection and Slide Preparation
Tissues fixed in 10% (v/v) formalin are suitable for use prior to paraffin embedding and sectioning.

Treatment of Tissues Prior to Staining
All formalin-fixed, paraffin-embedded tissue sections require pretreatment with Nucleic Acid Retrieval solution (NAR)

Troubleshooting
Contact BioGenex Technical Service Department at **1-800-421-4149 or your local distributor** to report unusual staining.

Expected Results
Proper use of this probe will result in an intense stain at the specific site of the hybridized fluorescein-labeled probe in positive test tissue. If staining is absent from any positive control slides, or present in any negative control slides, the test should be considered invalid.

Limitations of the Procedure
Correct treatment of tissues prior to and during fixation, embedding, and sectioning is important for obtaining optimal results. Inconsistent results may be due to variations in tissue processing, as well as inherent variations in tissue. The results from *in situ* hybridization must be correlated with other laboratory findings.

Performance Characteristics
BioGenex has conducted studies to evaluate the performance of the probe with BioGenex detection systems and accessories. The probes have been found to be sensitive and show specific binding to the target sequence of interest with minimal to no binding to non-specific tissues or cells. BioGenex probes have shown reproducible and consistent results when used within a single run, between runs, between lots and wherever applicable between manual and automated runs. The products have been determined to be stable for the periods specified on the labels either by standard real time or accelerated methods. BioGenex ensures product quality through standard quality control for all products released and through surveillance programs.

REFERENCES
1. Erber WN, Asbahr HD, and Phelps PN. *In situ* hybridization of immunoglobulin light chain mRNA of bone marrow trephines using biotinylated probes and the APAAP method. Pathology 25(1): 63-7, 1993.

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2. Weiss LM, Movahed LA, Chen YY, Shin SS, Stroup RM, Bui N, Estess P, and Bindl JM. Detection of immunoglobulin light chain mRNA in lymphoid tissues using a practical *in situ* hybridization method. Am J Pathol 137(4): 979-88, 1990.

3. King G, Chmbers G, and Murray GI. Detection of immunoglobulin light chain mRNA by *in situ* hybridization using biotinyl tyramide signal amplification. Mol Pathol 52(1):47-50, 1999.

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5. Pan L, Happerfield LC, Bobrow LG, and Isaacson PG. *In situ* detection of human Ig light-chain mRNA on formalin-fixed and paraffin-embedded tissue sections using digoxigenin-labeled RNA probes. Histochem J. 25(1): 57-63, 1999.