

## JAK2 probe PR264-100E

Doc No: 932- PR264-100E Rev: B  
Date of Release: 20-Aug-2020

### REAGENT SUPPLIED

1 x 0.650 ml of pre-diluted fluoresceinated JAK2 probe in hybridization solution.

### SPECIFICATIONS

The JAK2 probe detects poly (A) tails of mRNAs in formalin-fixed, paraffin-embedded human tissues by *in situ* hybridization.

### DESCRIPTION

The official name of this gene is "Janus kinase 2." The *JAK2* gene provides instructions for making a protein that promotes the growth and division (proliferation) of cells. This protein is part of a signaling pathway called the JAK/STAT pathway, which transmits chemical signals from outside the cell to the cell's nucleus. The JAK2 protein is especially important for controlling the production of blood cells from hematopoietic stem cells. These stem cells are located within the bone marrow and have the potential to develop into red blood cells, white blood cells, and platelets.

### 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)

### 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.

### 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.

For more information, refer to the Safety Data Sheet, which is available upon request

### 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. Silva JM, Dominguez G, Silva J, et al: Detection of epithelial messenger RNA in the plasma of breast cancer patients is associated with poor prognosis tumor characteristics. *Clin Cancer Res* 7:2821-2825, 2001
2. Pawlak A, Wu SJ, Bulle F, Suzuki A, Chikhi N, Ferry N. Different gamma-glutamyl transpeptidase mRNAs are expressed in human liver and kidney. *Biochem Biophys Res Commun* 1989; 164: 912-918.
3. Murata, T, Noguchi, PD, Puri, RK. **IL-13 induces phosphorylation and activation of JAK2 Janus kinase in human colon carcinoma cell lines: similarities between IL-4 and IL-13 signaling.** *J Immunol.* 1996;156:2972-2978.