

DATA SHEET
mRNA-JAK2 probe**Catalog No.**
PR264-100**Description**
One vial of 0.650 ml of probe in hybridizationbuffer**Analyte Specific Reagent. Analytical and performance characteristics are not established.**

Doc. No. 932-PR264-100

Rev. B

Date of release: 20-Aug-2020

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.

Specifications

Messenger RNA (mRNA) is a subtype of RNA. An mRNA molecule carries a portion of the DNA code to other parts of the cell for processing. mRNA is created during transcription. During the transcription process, a single strand of DNA is decoded by RNA polymerase, and mRNA is synthesized. Physically, mRNA is a strand of nucleotides known as ribonucleic acid, and is single-stranded.

Storage and Handling

Store the reagent at 2-8 °C. Do not freeze. Do not use the reagent after expiration date on vial. The reagent must be brought to room temperature before use. (Important! The presence of precipitates induces background staining).

Precautions:

For professional use. 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.

Quality Control

Each lot of this mRNA probe is tested by *In Situ* hybridization for Quality Control purposes. Refer to the BioGenex Quality Control Testing Conditions table for additional information.

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.

BioGenex Quality Control Testing Conditions

Parameter	Conditions used
Control Tissue	Prostate Carcinoma(PR-264)
Tissue Type	Formalin-fixed, paraffin-embedded cancer tissues