

Product Information

Anti-JAK2 antibody, Mouse monoclonal
clone 10.1.5, purified from hybridoma cell culture

Catalog Number **SAB4200483**

Product Description

Anti-JAK2 (mouse IgG1 isotype) is derived from the hybridoma 10.1.5 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to an internal sequence of human JAK2 (GeneID 3717), conjugated to KLH. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Anti-JAK2 recognizes human and bovine JAK2. The product may be used in several immunochemical techniques including immunoblotting (~ 125 kDa), immunocytochemistry and flow cytometry. Staining of the JAK2 band in immunoblotting is specifically inhibited by the immunizing protein.

The mammalian family of Janus kinases is composed of four members: Jak1, Jak2, Jak3, and the tyrosine kinase 2 (Tyk2). Jak1 and Jak2 are expressed in many tissues, including normal and neoplastic mammary epithelial cells. In contrast, the expression of Jak3 and Tyk2 is mostly limited to hematopoietic cells.¹ These proteins engage in interactions with the intracellular tails of several cytokine receptors, which result in the activation of members of the signal transducer and activator of transcription (STAT) family of transcription factors. The latter bind specific cognate sequences at the promoter region of genes that regulate proliferation and differentiation.² JAK activation plays an important role in cell proliferation, differentiation, migration and apoptosis. A member of this family, JAK2, has been found to induce signaling regulating gene expression of various pro-survival and anti-apoptotic molecules.³ Furthermore, inhibition of JAK2 signaling triggered cell death in human cancer cells.⁴⁻⁵ These findings indicate JAK2 inhibition as a potential therapeutic approach for various cancers.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 2.0-4.0 µg/mL is recommended using TF1 total cell extracts.

Immunofluorescence: a working concentration of 2.5-5.0 µg/mL is recommended using MCF7 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Wagner, K.U., and Schmidt, J.W., *J. Carcinog.*, **10**, 50-59 (2011).
2. Quintás-Cardama, A., and Verstovsek, S., *Cancer*, **118**, 870-877 (2012).
3. Rawlings, J.S., et al., *J. Cell Sci.*, **117**, 1281-1283 (2004).
4. Colomiere, M., et al., *Br. J. Cancer*, **100**, 134-144 (2009).
5. Li, F., et al., *Br. J. Pharmacol.*, **161**, 541-554 (2010).

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