10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

JAK3 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1329a

Specification

JAK3 Antibody - Product Information

Application	**WB, FC, ICC, E**
Primary Accession	P52333
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**125kDa KDa**

Description
JAK3, Janus kinase 3. It is a member of the Janus kinase (JAK) family of tyrosine kinases involved in cytokine receptor-mediated intracellular signal transduction. It is predominantly expressed in immune cells and transduces a signal in response to its activation via tyrosine phosphorylation by interleukin receptors. Mutations in this gene are associated with autosomal SCID (severe combined immunodeficiency disease).

Immunogen
Purified recombinant fragment of human JAK3 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

JAK3 Antibody - Additional Information

Gene ID 3718

Other Names
Tyrosine-protein kinase JAK3, 2.7.10.2, Janus kinase 3, JAK-3, Leukocyte janus kinase, L-JAK, JAK3

Dilution
WB~~1/500 - 1/2000
FC~~1/200 - 1/400
ICC~~N/A
E~~N/A

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
JAK3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

JAK3 Antibody - Protein Information

Name JAK3 (HGNC:6193)

Function
Non-receptor tyrosine kinase involved in various processes such as cell growth, development, or differentiation. Mediates essential signaling events in both innate and adaptive immunity and plays a crucial role in hematopoiesis during T-cells development. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors sharing the common subunit gamma such as IL2R, IL4R, IL7R, IL9R, IL15R and IL21R. Following ligand binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins. Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, upon IL2R activation by IL2, JAK1 and JAK3 molecules bind to IL2R beta (IL2RB) and gamma chain (IL2RG) subunits inducing the tyrosine phosphorylation of both receptor subunits on their cytoplasmic domain. Then, STAT5A and STAT5B are recruited, phosphorylated and activated by JAK1 and JAK3. Once activated, dimerized STAT5 translocates to the nucleus and promotes the transcription of specific target genes in a cytokine-specific fashion.

Cellular Location
Endomembrane system; Peripheral membrane protein. Cytoplasm

Tissue Location
In NK cells and an NK-like cell line but not in resting T-cells or in other tissues. The S-form is more commonly seen in hematopoietic lines, whereas the B-form is detected in cells both of hematopoietic and epithelial origins.

JAK3 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

JAK3 Antibody - Images

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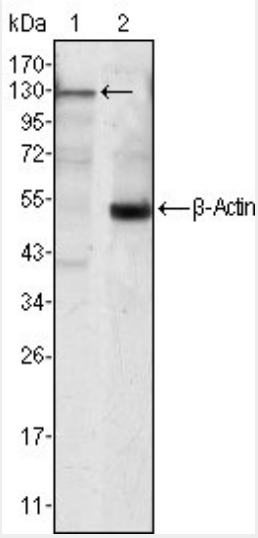

Figure 1: Western blot analysis using JAK3 mouse mAb against Jurkat cell lysate (1).

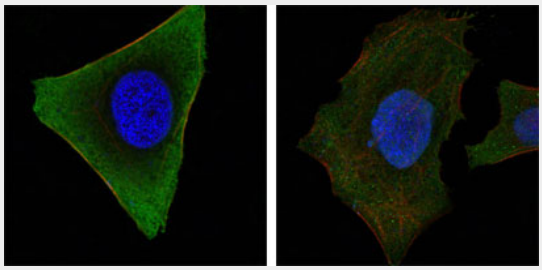

Figure 2: Confocal immunofluorescence analysis of Hela (left) and HepG2 (right) cells using JAK3 mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

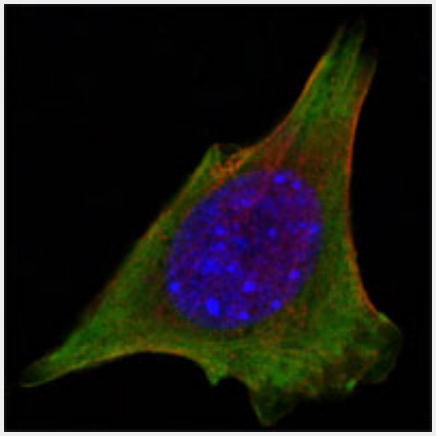

Figure 3: Confocal immunofluorescence analysis of 3T3-L1 cells using JAK3 mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

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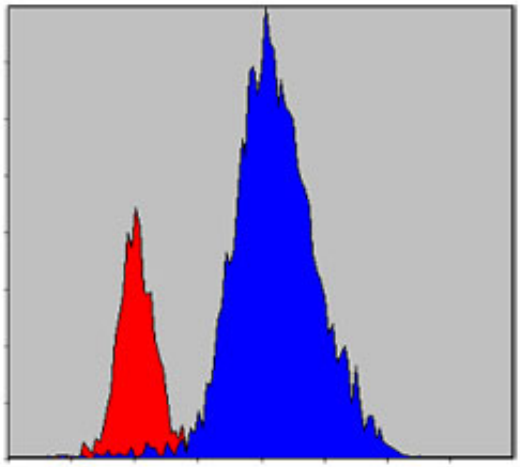

Figure 4: Flow cytometric analysis of Hela cells using JAK3 mouse mAb (blue) and negative control (red).

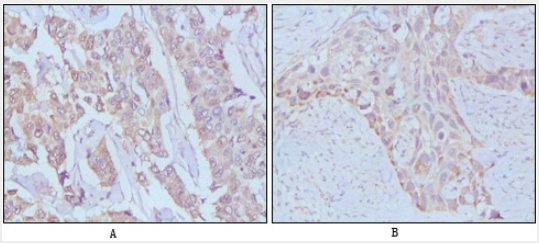

Figure 2: Immunohistochemical analysis of paraffin-embedded human breast cancer,Lung breast tissues using EGF mouse mAb

JAK3 Antibody - References

1. J Biol Chem. 1995 Oct 20;270(42):25028-36. 2. Proc Natl Acad Sci U S A. 1994 Jul 5;91(14):6374-8. 3. Leuk Lymphoma. 2002 Dec;43(12):2355-62.