JAK3 Mouse mAb

Catalog#: AM0386 | Size: 30μL/50μL/100μL

Main Information

Target	Host Species	Reactivity	Application	MW	Conjugated/Modification
JAK3	Mouse	Human, Mouse	WB, IF, Flow Cyt, ELISA	125kD (Calculated)	Unmodified

Detailed Information

Recommeded Dilution Ratio	WB 1:500-1:2000; IF 1:200-1:1000; Flow Cyt 1:200-1:400; ELISA 1:10000; Not yet tested in other applications.
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Specificity	JAK3 Monoclonal Antibody detects endogenous levels of JAK3 protein.
Purification	Affinity purification
Storage	-15°C to -25°C/1 year(Do not lower than -25°C)
Concentration	1 mg/ml
MW(Calculated)	125kD
Modification	Unmodified
Clonality	Monoclonal

Antigen&Target Information

Immunogen	Purified recombinant fragment of human JAK3 expressed in E. Coli.
Specificity	JAK3 Monoclonal Antibody detects endogenous levels of JAK3 protein.
Gene Name	JAK3
Protein Name	Tyrosine-protein kinase JAK3
Other Name	JAK3 ;Tyrosine-protein kinase JAK3 ;Janus kinase 3 ;JAK-3 ;Leukocyte janus kinase ; L-JAK

Database Link

Organism	Gene ID	SwissProt
Human	3718	P52333
Mouse	16453	Q62137

Background

The protein encoded by this gene 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). [provided by RefSeq, Jul 2008].

Function

Catalytic activity:ATP + a [protein]-L-tyrosine = ADP + a [protein]-L-tyrosine phosphate.,Disease:Defects in JAK3 are a cause of severe combined immunodeficiency autosomal recessive T-cell-negative/B-cell-positive/NK-cell-negative (T(-)B(+)NK(-)SCID) [MIM:600802]. SCID refers to a genetically and clinically heterogeneous group of rare congenital disorders characterized by impairment of both humoral and cell-mediated immunity, leukopenia, and low or absent antibody levels. Patients with SCID present in infancy with recurrent, persistent infections by opportunistic organisms. The common characteristic of all types of SCID is absence of T-cell-mediated cellular immunity due to a defect in T-cell development.,Domain:Possesses two phosphotransferase domains. The second one probably contains the catalytic domain (By similarity), while the presence of slight differences suggest a different role for domain 1.,Function:Tyrosine kinase of the non-receptor type, involved in the interleukin-2 and interleukin-4 signaling pathway. Phosphorylates STAT6, IRS1, IRS2 and PI3K.,online information:JAK3 mutation db,PTM:Tyrosine phosphorylated in response to IL-2 and IL-4.,similarity:Belongs to the protein kinase superfamily. Tyr protein kinase family. JAK subfamily.,similarity:Contains 1 FERM domain.,similarity:Contains 1 protein kinase domain.,similarity:Contains 1 SH2 domain.,subcellular location:Wholly intracellular, possibly membrane associated.,subunit:Interacts with STAM2 and MYO18A (By similarity). Interacts with SHB.,tissue specificity: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- and M-forms are detected in cells both of hematopoietic and epithelial origins.

Cellular Localization

Endomembrane system ; Peripheral membrane protein. Cytoplasm.

Tissue Expression

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.

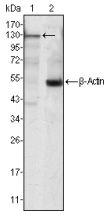
Research Areas

- Chemokine signaling pathway
- PI3K-Akt signaling pathway
- Necroptosis
- Signaling pathways regulating pluripotency of stem cells
- JAK-STAT signaling pathway
- Th1 and Th2 cell differentiation
- Th17 cell differentiation
- Hepatitis B
- Measles
- Human T-cell leukemia virus 1 infection
- Epstein-Barr virus infection
- Pathways in cancer
- Viral carcinogenesis
- Non-small cell lung cancer
- Primary immunodeficiency

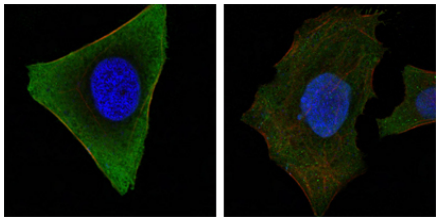
Signaling Pathway

Cellular Processes >> Cell growth and death >> Necroptosis
Cellular Processes >> Cellular community - eukaryotes >> Signaling pathways regulating pluripotency of stem cells
Organismal Systems >> Immune system >> Th1 and Th2 cell differentiation
Organismal Systems >> Immune system >> Th17 cell differentiation
Organismal Systems >> Immune system >> Chemokine signaling pathway
Human Diseases >> Cancer: overview >> Pathways in cancer
Human Diseases >> Cancer: specific types >> Non-small cell lung cancer
Human Diseases >> Immune disease >> Primary immunodeficiency
Environmental Information Processing >> Signal transduction >> JAK-STAT signaling pathway
Environmental Information Processing >> Signal transduction >> PI3K-Akt signaling pathway

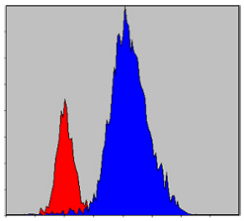
Validation Data



Western Blot analysis using JAK3 Monoclonal Antibody against Jurkat cell lysate (1).



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



Flow cytometric analysis of Hela cells using JAK3 Monoclonal Antibody (blue) and negative control (red).

Contact Information

+886-32876194 www.acebiolab.com Order: order@acebiolab.com Support: service@acebiolab.com
RM. 7, 13F., NO. 268, SEC. 1, GAOTIEZHANQIAN W. RD., ZHONGLI DIST., TAOYUAN CITY 320016 , TAIWAN (R.O.C.)