

## JAK3 (6B5) Mouse mAb

Catalog#: AM33098 | Size: 30µL/50µL/100µL

### Main Information

Target	Host Species	Reactivity	Application	MW	Conjugated/Modification
JAK3	Mouse	Human, Mouse, Rat	IHC	125kD (Observed)	Unmodified

### Detailed Information

Recommended Dilution Ratio	IHC 1:50-200
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Specificity	This antibody detects endogenous levels of JAK3 at Human, Mouse, Rat
Purification	The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen.
Storage	-15°C to -25°C/1 year (Do not lower than -25°C)
Concentration	1 mg/ml
MW(Observed)	125kD
Modification	Unmodified
Clonality	Monoclonal
Clone Number	6B5

### Antigen&Target Information

Immunogen	Synthesized peptide derived from human JAK3
Specificity	This antibody detects endogenous levels of JAK3 at Human, Mouse, Rat
Gene Name	JAK3
Protein Name	JAK3

### Database Link

Organism	Gene ID	SwissProt
Human	3718	P52333
Mouse	16453	Q62137
Rat		Q63272

## 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

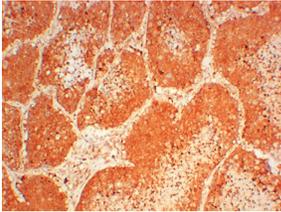
- Chemokine signaling pathway
- PI3K-Akt signaling pathway
- Necroptosis
- Signaling pathways regulating pluripotency of stem cells
- JAK-STAT signaling pathway
- Th1 and Th2 cell differentiation
- Th17 cell differentiation
- Hepatitis B
- Measles
- Human T-cell leukemia virus 1 infection
- Epstein-Barr 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



Immunohistochemical analysis of paraffin-embedded Human Lung Carcinoma tissue using JAK3 Mouse Monoclonal antibody diluted at 1:200.

## Contact Information

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

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