

JAK3 (Phospho Tyr981) Rabbit pAb

Catalog#: AP1590 | Size: 30µL/50µL/100µL

Main Information

Target	Host Species	Reactivity	Application	MW	Conjugated/Modification
JAK3	Rabbit	Human, Mouse, Rat	WB, IHC	73kD (Observed)	Phospho

Detailed Information

Recommended Dilution Ratio	WB 1:500-2000; IHC 1:50-300
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Specificity	This antibody detects endogenous levels of Human, Mouse, Rat JAK3 (Phospho Tyr981). The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites): DYyVV
Purification	The antibody was affinity-purified from rabbit serum 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)	73kD
Modification	Phospho
Clonality	Polyclonal
Isotype	IgG

Antigen&Target Information

Immunogen	Synthesized phosho peptide around human Jak3 (Tyr980 and 981)
Specificity	This antibody detects endogenous levels of Human,Mouse,Rat JAK3 (Phospho Tyr981).The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):DyyVV
Gene Name	JAK3
Protein Name	JAK3 (Phospho Tyr981)
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
Rat		Q63272

Background

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.

Function

regulation of transcription, DNA-dependent, regulation of transcription from RNA polymerase II promoter, protein amino acid phosphorylation, phosphorus metabolic process, phosphate metabolic process, cell surface receptor linked signal transduction, enzyme linked receptor protein signaling pathway, intracellular signaling cascade, protein kinase cascade, positive regulation of biosynthetic process, positive regulation of macromolecule biosynthetic process, positive regulation of macromolecule metabolic process, positive regulation of gene expression, phosphorylation, peptidyl-tyrosine phosphorylation, peptidyl-tyrosine modification, cytokine-mediated signaling pathway, positive regulation of cellular biosynthetic process, regulation of transcription, positive regulation of transcription, DNA-dependent, positive regulation of nucleobase, nucleoside, nucleotide and nucleic acid metabolic process, positive regulation of transcription, positive regulation of transcription from RNA polymerase II promoter, positive regulation of nitrogen compound metabolic process, regulation of RNA metabolic process, positive regulation of RNA metabolic process.

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

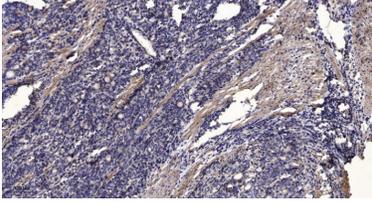
- Chemokine signaling pathway
- PI3K-Akt signaling pathway
- Necroptosis
- Signaling pathways regulating pluripotency of stem cells
- JAK-STAT signaling pathway
- Th1 and Th2 cell differentiation
- Th17 cell differentiation
- Hepatitis B
- Measles
- Human T-cell leukemia virus 1 infection
- Epstein-Barr 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 Gastric adenocarcinoma. 1, Antibody was diluted at 1:200(4° overnight). 2, Tris-EDTA,pH9.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 45min).

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