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

JAK1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20699a

Product Information

Application	WB, E
Primary Accession	P23458
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB43809
Calculated MW	133277

Additional Information

Gene ID	3716
Other Names	Tyrosine-protein kinase JAK1, Janus kinase 1, JAK-1, JAK1, JAK1A, JAK1B
Target/Specificity	This JAK1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 172-204 amino acids from the N-terminal region of human JAK1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	JAK1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	JAK1 (HGNC:6190)
Synonyms	JAK1A, JAK1B
Function	Non-membrane spanning protein tyrosine kinase that phosphorylates signal-transducing subunits of cytokine receptor complexes like IL2RB, IL10RA, IFNAR2, IL6ST, LIFR, OSMR and IL31RA (PubMed:11909529,

PubMed:12133952, PubMed:15194700, PubMed:16239216, PubMed:28111307, PubMed:32750333, PubMed:7615558, PubMed:8232552, PubMed:9188471). Functionally, is involved in the IFN-alpha/beta/gamma signal pathway (PubMed:16239216, PubMed:28111307, PubMed:32750333, PubMed:7615558, PubMed:8232552). Mechanistically, in response to interferon-binding to IFNAR1-IFNAR2 heterodimer, phosphorylates and activates its binding partner IFNAR2, creating docking sites for STAT proteins (PubMed:7759950). Directly phosphorylates STAT proteins but also activates STAT signaling through the transactivation of other JAK kinases associated with signaling receptors (PubMed:16239216, PubMed:32750333, PubMed:8232552). Involved in the MT-RNR2/humanin- mediated signaling pathway leading to STAT3 phosphorylation (PubMed:27384491). Binding of CNTF or the CLCF1/CLF heterodimer to CNTFR leads to IL6ST/gp130-LIFR dimerization followed by activation of JAK1 and JAK2 which in turns phosphorylate IL6ST/gp130 and LIFR (PubMed:11294841). The tyrosine phosphorylated signaling receptors serve in turn as docking proteins for STAT3 (PubMed:11294841). Involved in the oncostatin-M-mediated signaling pathway through both type I OSM receptor complex (heterodimers composed of LIFR and IL6ST) and type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) (PubMed:9188471). Involved in the oncostatin-M-mediated signaling pathway through both type I OSM receptor complex (heterodimers composed of LIFR and IL6ST) and type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) (PubMed:9188471). Involved in the Interleukin-31-mediated signaling pathway through the IL31 receptor complex (heterodimers composed of OSMR and IL31RA) (PubMed:15194700).

Cellular Location

Endomembrane system; Peripheral membrane protein. Note=Wholly intracellular, possibly membrane associated

Tissue Location

Expressed at higher levels in primary colon tumors than in normal colon tissue. The expression level in metastatic colon tumors is comparable to the expression level in normal colon tissue

Background

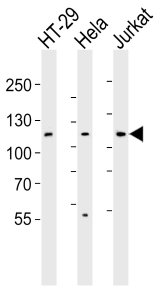
Tyrosine kinase of the non-receptor type, involved in the IFN-alpha/beta/gamma signal pathway. Kinase partner for the interleukin (IL)-2 receptor.

References

Wilks A.F.,et al.Mol. Cell. Biol. 11:2057-2065(1991).
Totoki Y.,et al.Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.
Gregory S.G.,et al.Nature 441:315-321(2006).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Lee S.-T.,et al.Oncogene 8:3403-3410(1993).

Images

Western blot analysis of lysates from HT-29, Hela, Jurkat cell line (from left to right), using JAK1 Antibody (N-term)(Cat. #AP20699a). AP20699a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.



Citations

- Radiation alters PD-L1/NKG2D ligand levels in lung cancer cells and leads to immune escape from NK cell cytotoxicity via IL-6-MEK/Erk signaling pathway.
- In vitro-induced M2 type macrophages induces the resistance of prostate cancer cells to cytotoxic action of NK cells.
- Adipocytes affect castration-resistant prostate cancer cells to develop the resistance to cytotoxic action of NK cells with alterations of PD-L1/NKG2D ligand levels in tumor cells.
- Enhancing NK cell-mediated cytotoxicity to cisplatin-resistant lung cancer cells via MEK/Erk signaling inhibition.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.