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Anti-JAK1 Picoband Antibody

Catalog # ABO10058

Product Information

Application	WB
Primary Accession	P23458
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Tyrosine-protein kinase JAK1(JAK1) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	3716
Other Names	Tyrosine-protein kinase JAK1, 2.7.10.2, Janus kinase 1, JAK-1, JAK1, JAK1A, JAK1B
Calculated MW	133277
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Endomembrane system; Peripheral membrane protein. Wholly intracellular, possibly membrane associated.
Tissue Specificity	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. .
Source	Eukaryota
Protein Name	Tyrosine-protein kinase JAK1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human JAK1 (78-115aa FALYDENTKLWYAPNRTITVDDKMSLRLHYRMRFYFTN), different from the related mouse sequence by three amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

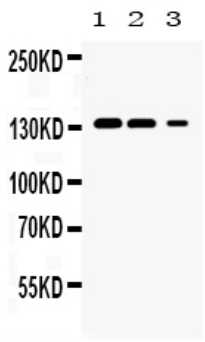
Protein Information

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

JAK1 (JANUS KINASE 1) is a human tyrosine kinase protein essential for signaling for certain type I and type II cytokines. It is a member of a new class of PTKs that are a large family of proteins characterized by the presence of a second phosphotransferase-related domain immediately N-terminal to the PTK domain--hence the name Janus. The JAK1 gene is mapped to 1p31.3. JAK1 is also important for transducing a signal by type I (IFN- □±/ □²) and type II (IFN- □³) interferons, and members of the IL-10 family via type II cytokine receptors. Additionally, Jak1 plays a critical role in initiating responses to multiple major cytokine receptor families. Loss of Jak1 is lethal in neonatal mice, possibly due to difficulties suckling. Expression of JAK1 in cancer cells enables individual cells to contract, potentially allowing them to escape their tumor and metastasize to other parts of the body.

Images



Western blot analysis of JAK1 expression in rat kidney extract (lane 1), mouse kidney extract (lane 2) and HELA whole cell lysates (lane 3). JAK1 at 133KD was detected using rabbit anti- JAK1 Antigen Affinity purified polyclonal antibody (Catalog #ABO10058) at 0.5 □¼g/mL. The blot was developed using chemiluminescence (ECL) method .

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