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# JAK1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20699a

## Product Information

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|---|---|
| **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

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| **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

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| **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

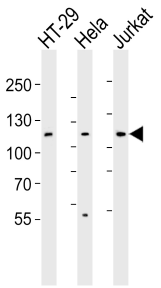
Tyrosine kinase of the non-receptor type, involved in the IFN-alpha/beta/gamma signal pathway. Kinase partner for the interleukin (IL)-2 receptor.

## 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'.