

JAK2 Antibody (C-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20700c

Specification

JAK2 Antibody (C-term) - Product Information

Application	WB,E
Primary Accession	O60674
Other Accession	O62689 , O19064 , O62120 , O75R65
Reactivity	Human
Predicted	Chicken, Mouse, Pig, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	130674

JAK2 Antibody (C-term) - Additional Information

Gene ID 3717

Other Names

Tyrosine-protein kinase JAK2, Janus kinase 2, JAK-2, JAK2

Target/Specificity

This JAK2 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 834-868 amino acids from the C-terminal region of human JAK2.

Dilution

WB~~1:1000

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

JAK2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

JAK2 Antibody (C-term) - Protein Information

Name JAK2 ([HGNC:6192](#))

Function Non-receptor tyrosine kinase involved in various processes such as cell growth, development, differentiation or histone modifications. Mediates essential signaling events in both

innate and adaptive immunity. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors such as growth hormone (GHR), prolactin (PRLR), leptin (LEPR), erythropoietin (EPOR), thrombopoietin (THPO); or type II receptors including IFN-alpha, IFN- beta, IFN-gamma and multiple interleukins (PubMed:[7615558](#)). Following ligand-binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins (PubMed:[9618263](#)). Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, cell stimulation with erythropoietin (EPO) during erythropoiesis leads to JAK2 autophosphorylation, activation, and its association with erythropoietin receptor (EPOR) that becomes phosphorylated in its cytoplasmic domain. Then, STAT5 (STAT5A or STAT5B) is recruited, phosphorylated and activated by JAK2. Once activated, dimerized STAT5 translocates into the nucleus and promotes the transcription of several essential genes involved in the modulation of erythropoiesis. Part of a signaling cascade that is activated by increased cellular retinol and that leads to the activation of STAT5 (STAT5A or STAT5B) (PubMed:[21368206](#)). In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation (PubMed:[20098430](#)). Plays a role in cell cycle by phosphorylating CDKN1B (PubMed:[21423214](#)). Cooperates with TEC through reciprocal phosphorylation to mediate cytokine-driven activation of FOS transcription. In the nucleus, plays a key role in chromatin by specifically mediating phosphorylation of 'Tyr-41' of histone H3 (H3Y41ph), a specific tag that promotes exclusion of CBX5 (HP1 alpha) from chromatin (PubMed:[19783980](#)).

Cellular Location

Endomembrane system; Peripheral membrane protein. Cytoplasm. Nucleus

Tissue Location

Ubiquitously expressed throughout most tissues.

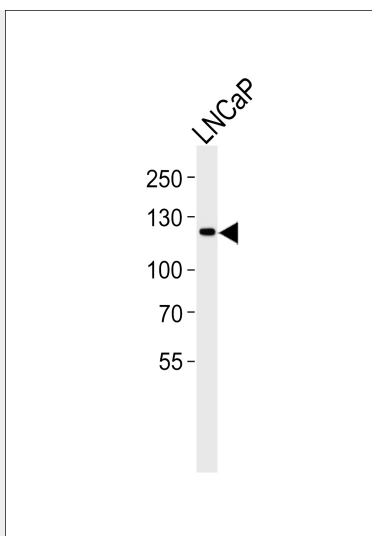
JAK2 Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

JAK2 Antibody (C-term) - Images





Western blot analysis of lysate from LNCaP cell line, using JAK2 Antibody (C-term)(Cat. #AP20700c). AP20700c was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug.

JAK2 Antibody (C-term) - Background

Non-receptor tyrosine kinase involved in various processes such as cell growth, development, differentiation or histone modifications. Mediates essential signaling events in both innate and adaptive immunity. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors such as growth hormone (GHR), prolactin (PRLR), leptin (LEPR), erythropoietin (EPOR), thrombopoietin (THPO); or type II receptors including IFN-alpha, IFN-beta, IFN-gamma and multiple interleukins. Following ligand-binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins. Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, cell stimulation with erythropoietin (EPO) during erythropoiesis leads to JAK2 autophosphorylation, activation, and its association with erythropoietin receptor (EPOR) that becomes phosphorylated in its cytoplasmic domain. Then, STAT5 (STAT5A or STAT5B) is recruited, phosphorylated and activated by JAK2. Once activated, dimerized STAT5 translocates into the nucleus and promotes the transcription of several essential genes involved in the modulation of erythropoiesis. In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation. Plays a role in cell cycle by phosphorylating CDKN1B. Cooperates with TEC through reciprocal phosphorylation to mediate cytokine-driven activation of FOS transcription. In the nucleus, plays a key role in chromatin by specifically mediating phosphorylation of 'Tyr-41' of histone H3 (H3Y41ph), a specific tag that promotes exclusion of CBX5 (HP1 alpha) from chromatin.

JAK2 Antibody (C-term) - References

Saltzman A., et al. *Biochem. Biophys. Res. Commun.* 246:627-633(1998).
Dalal I., et al. *Blood* 91:844-851(1998).
Peeters P., et al. *Blood* 90:2535-2540(1997).
Humphray S.J., et al. *Nature* 429:369-374(2004).
Pollack B.P., et al. *J. Biol. Chem.* 274:31531-31542(1999).

JAK2 Antibody (C-term) - Citations

- [Baohuoside I via mTOR Apoptotic Signaling to Inhibit Glioma Cell Growth](#)
- [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.](#)

- [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.](#)