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JAK2 Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14491c

Specification

JAK2 Antibody (Center) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	O60674
Other Accession	Q62689, O19064, NP_004963.1
Reactivity	**Mouse**
Predicted	**Pig, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**130674**
Antigen Region	**666-694**

JAK2 Antibody (Center) - 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 rabbits immunized with a KLH conjugated synthetic peptide between 666-694 amino acids from the Central region of human JAK2.

Dilution
WB~~1:1000
IHC-P~~1:10~50

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 (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

JAK2 Antibody (Center) - 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 receptor (MPL/TPOR); or type II receptors including IFN-alpha, IFN-beta, IFN-gamma and multiple interleukins (PubMed:15690087, PubMed:7615558, PubMed:9657743, PubMed:15899890). 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:15690087, 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 (PubMed:9657743). 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). Up-regulates the potassium voltage- gated channel activity of KCNA3 (PubMed:25644777).

Cellular Location
Endomembrane system; Peripheral membrane protein. Cytoplasm. Nucleus

Tissue Location
Ubiquitously expressed throughout most tissues.

JAK2 Antibody (Center) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

JAK2 Antibody (Center) - Images

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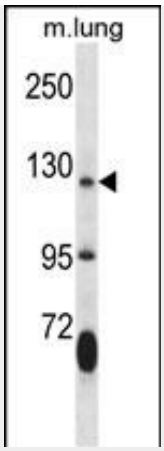
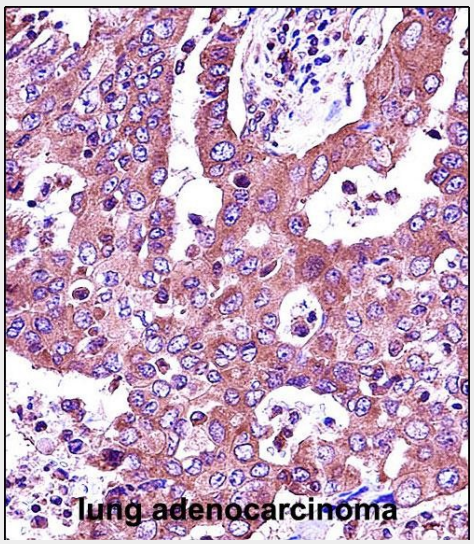


JAK2 Antibody (Center) (Cat. #AP14491c) western blot analysis in mouse lung tissue lysates (35ug/lane).This demonstrates the JAK2 antibody detected the JAK2 protein (arrow).



JAK2 Antibody (Center) (Cat. #AP14491c)immunohistochemistry analysis in formalin fixed and paraffin embedded human lung adenocarcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of JAK2 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.

JAK2 Antibody (Center) - Background

This gene product is a protein tyrosine kinase involved in a specific subset of cytokine receptor signaling pathways. It has been found to be constituitively associated with the prolactin receptor and is required for responses to gamma interferon. Mice that do not express an active protein for this gene exhibit embryonic lethality associated with the absence of definitive erythropoiesis.

JAK2 Antibody (Center) - References

Qian, J., et al. Clin. Chim. Acta 411 (23-24), 2097-2100 (2010) :
Andrikovics, H., et al. Leukemia 24(10):1809-1813(2010)
Beer, P.A., et al. Blood 116(6):1013-1014(2010)
Weston, H., et al. Intern Med J (2010) In press :
Ma, W., et al. PLoS ONE 5 (8), E12165 (2010) :