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

Anti-JAK2 (pY221) Antibody

Rabbit polyclonal antibody to JAK2 (pY221)
Catalog # AP61174

Specification

Anti-JAK2 (pY221) Antibody - Product Information

Application	**WB, IH, E**
Primary Accession	Q60674
Other Accession	Q62120
Reactivity	**Human, Mouse, Rat, Monkey, Pig, Drosophila**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**130674**

Anti-JAK2 (pY221) Antibody - Additional Information

Gene ID 3717

Other Names
Tyrosine-protein kinase JAK2; Janus kinase 2; JAK-2

Target/Specificity
Recognizes endogenous levels of JAK2 (pY221) protein.

Dilution
WB~~WB (1/500 - 1/1000), IH (1/50 - 1/200)
IH~~WB (1/500 - 1/1000), IH (1/50 - 1/200)
E~~WB (1/500 - 1/1000), IH (1/50 - 1/200)

Format
Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

Storage
Store at -20 °C.Stable for 12 months from date of receipt

Anti-JAK2 (pY221) Antibody - 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:<a

href="http://www.uniprot.org/citations/7615558" target="_blank">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

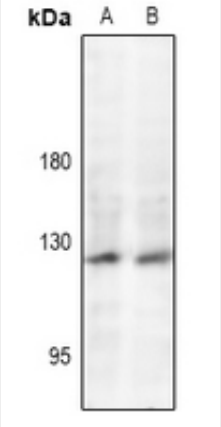
Tissue Location
Ubiquitously expressed throughout most tissues.

Anti-JAK2 (pY221) Antibody - Protocols

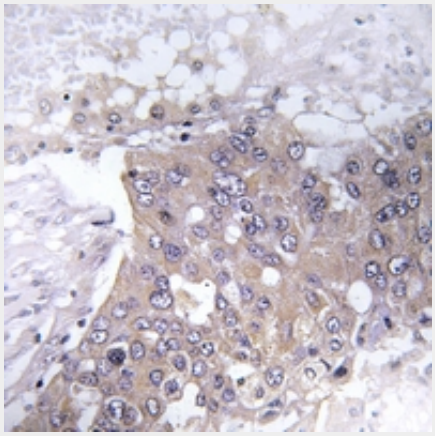
Provided below are standard protocols that you may find useful for product applications.

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

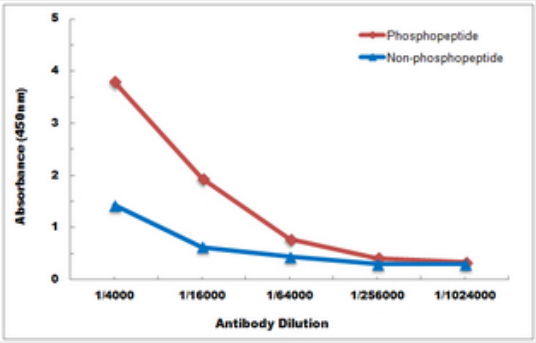
Anti-JAK2 (pY221) Antibody - Images



Western blot analysis of JAK2 (pY221) expression in HepG2 (A), LO2 (B) whole cell lysates.



Immunohistochemical analysis of JAK2 (pY221) staining in human liver cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Direct ELISA antibody dose-response curve using Anti-JAK2 (pY221) Antibody. Antigen (phosphopeptide and non-phosphopeptide) concentration is 5 ug/ml. Goat Anti-Rabbit IgG (H&L) - HRP was used as the secondary antibody, and signal was developed by TMB substrate.

Anti-JAK2 (pY221) Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human JAK2 (pY221). The exact sequence is proprietary.