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Phospho-JAK2 (Y1007 + Y1008) Antibody
Rabbit mAb
Catalog # AP91002

Specification

Phospho-JAK2 (Y1007 + Y1008) Antibody - Product Information

Application	**WB, IHC, ICC, IP**
Primary Accession	O60674
Reactivity	**Rat**
Clonality	**Monoclonal**

Other Names
EC 2.7.10.2; JAK-2; JAK2; Janus kinase 2; kinase Jak2;

Isotype	**Rabbit IgG**
Host	**Rabbit**
Calculated MW	**130674 Da**

Phospho-JAK2 (Y1007 + Y1008) Antibody - Additional Information

Dilution	**WB~~1:1000 IHC~~1:100~500 ICC~~N/A IP~~N/A**
Purification	**Affinity-chromatography**
Immunogen	**A synthesized peptide derived from human Phospho-JAK2 (Y1007 + Y1008)**
Description	**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.**
Storage Condition and Buffer	**Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.**

Phospho-JAK2 (Y1007 + Y1008) 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 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.

Phospho-JAK2 (Y1007 + Y1008) 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

Phospho-JAK2 (Y1007 + Y1008) Antibody - Images

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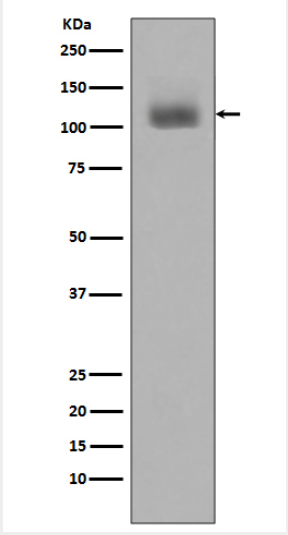

Western blot analysis of JAK2 phosphorylation expression in Jurkat cell lysates treated with Pervanadate.