# JAK2 (Ab-570) Antibody

Catalog No: #33137

Package Size: #33137-1 50ul #33137-2 100ul

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

## Description

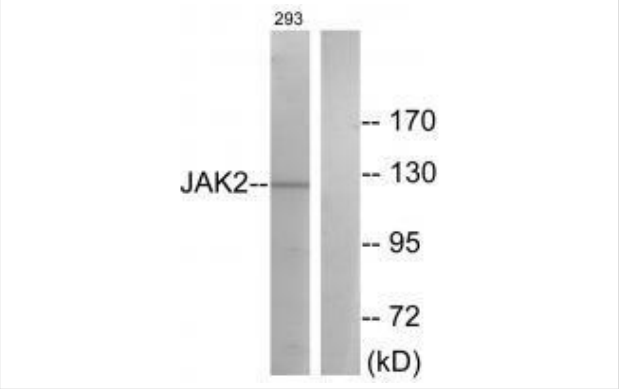
| | |
|---|---|
| Product Name | JAK2 (Ab-570) Antibody |
| Host Species | Rabbit |
| Clonality | Polyclonal |
| Purification | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. |
| Applications | WB IF |
| Species Reactivity | Hu Ms |
| Specificity | The antibody detects endogenous levels of total JAK2 protein. |
| Immunogen Type | Peptide |
| Immunogen Description | Synthesized non-phosphopeptide derived from human JAK2 around the phosphorylation site of tyrosine 570 (G-D-Y(p)-G-Q). |
| Target Name | JAK2 |
| Other Names | EC 2.7.10.2; JAK-2; JAK2; Janus kinase 2; kinase Jak2 |
| Accession No. | Swiss-Prot: O60674NCBI Gene ID: 3717 |
| SDS-PAGE MW | 125kd |
| Concentration | 1.0mg/ml |
| Formulation | Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. |
| Storage | Store at -20°C |

## Application Details

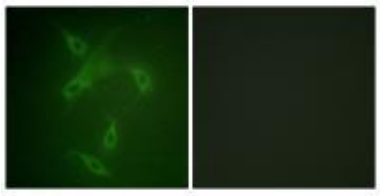
Western blotting: 1:500~1:3000

Immunofluorescence: 1:100~1:500

## Images




Western blot analysis of extracts from 293 cells, treated with etoposide (25uM, 24hours), using JAK2 (Ab-570) antibody #33137.



Immunofluorescence analysis of NIH/3T3 cells, using JAK2 (Ab-570) antibody #33137.

## 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.

Saltzman A., Biochem. Biophys. Res. Commun. 246:627-633(1998).
Dalal I., Blood 91:844-851(1998).
Peeters P., Blood 90:2535-2540(1997)

Note: This product is for in vitro research use only and is not intended for use in humans or animals.