



Phospho-JAK2 (Y1007 + Y1008) Recombinant Monoclonal Antibody

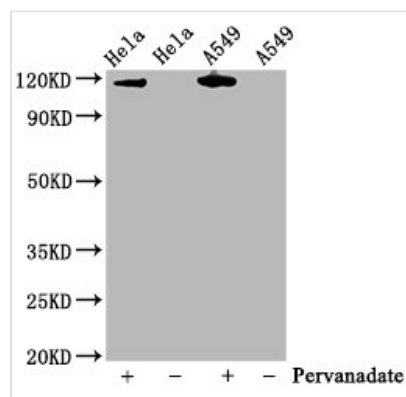
Product Code	CSB-RA011931A100phHU
Abbreviation	Tyrosine-protein kinase JAK2
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	O60674
Immunogen	A synthesized peptide derived from Human Phospho-JAK2 (Y1007 + Y1008)
Species Reactivity	Human
Tested Applications	ELISA, WB, IHC, IP; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IP:1:200-1:1000
Relevance	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).
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium



azide and 50% glycerol.

Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Tyrosine-protein kinase JAK2, Janus kinase 2, JAK-2, JAK2
Immunogen Species	Homo sapiens (Human)
Research Area	Cell Biology
Gene Names	JAK2
Clone No.	1A4

Image



Western Blot

Positive WB detected in HeLa whole cell lysate, A549 whole cell lysate (treated with Pervanadate or not)

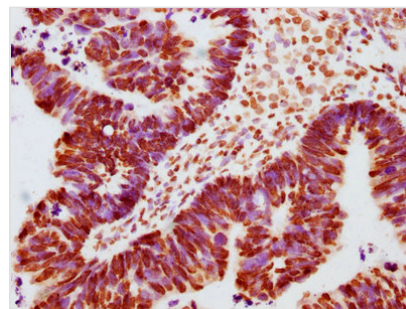
All lanes Phospho-JAK2 antibody at 0.75μg/ml

Secondary

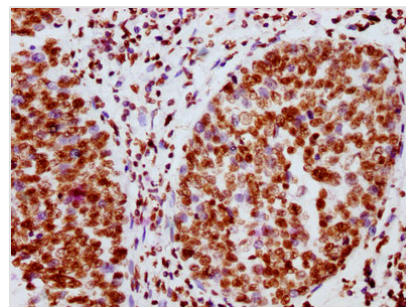
Goat polyclonal to rabbit IgG at 1/50000 dilution

Predicted band size: 120 KDa

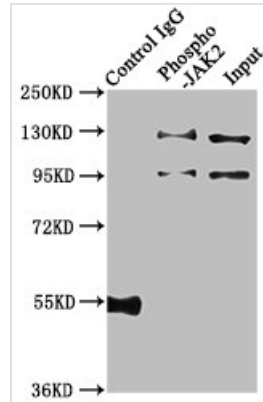
Observed band size: 120 KDa



IHC image of CSB-RA011931A100pH10 diluted at 1:100 and staining in paraffin-embedded human ovarian cancer performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



IHC image of CSB-RA011931A100pH10 diluted at 1:100 and staining in paraffin-embedded human cervical cancer performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Immunoprecipitating Phospho-JAK2 in HeLa whole cell lysate treated with Pervanadate

Lane 1: Rabbit control IgG(1μg)instead of CSB-RA011931A100phHU in HeLa whole cell lysate treated with Pervanadate. For western blotting,a HRP-conjugated Protein G antibody was used as the secondary antibody (1/2000)

Lane 2: CSB-RA011931A100phHU(3μg)+ HeLa whole cell lysate treated with Pervanadate(1mg)

Lane 3: HeLa whole cell lysate treated with Pervanadate(20μg)

Description

The rabbit IgG recombinant phospho-JAK2 (Y1007 + Y1008) monoclonal antibody specifically targets the human JAK2 phosphorylated at Tyr 1007 and Tyr 1008 residues. The DNA encoding the phospho-JAK2 (Y1007 + Y1008) monoclonal antibody was inserted into the plasmid and subsequently transfected into the cell line for expression. The product was purified through the affinity-chromatography method to get the phospho-JAK2 (Y1007 + Y1008) recombinant antibody. This phospho-JAK2 (Y1007 + Y1008) antibody shows reactivity with human samples. It has been validated for multiple applications, including ELISA, WB, IHC, and IP.

JAK2 is a non-receptor protein tyrosine kinase that belongs to the Janus kinase (JAKs) family, which also includes JAK1, JAK3, and TYK2. JAKs are cytoplasmic signaling components of cytokine receptors that are activated by cytokine-mediated trans-phosphorylation, which leads to receptor phosphorylation and recruitment and phosphorylation of STAT proteins. During cytokine stimulation, JAK2 is phosphorylated on multiple sites, including Tyr 1007 and Tyr 1008.