

JAK2(Phospho-Tyr221) Antibody

Catalog No: #11150

Package Size: #11150-1 50ul #11150-2 100ul

Orders: order@signalwayantibody.com

Support: tech@signalwayantibody.com

Description

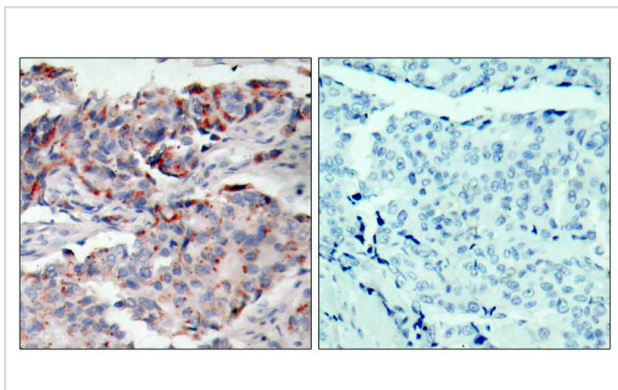
Product Name	JAK2(Phospho-Tyr221) Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antibodies were produced by immunizing rabbits with synthetic phosphopeptide and KLH conjugates. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. Non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Applications	IHC
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous level of JAK2 only when phosphorylated at tyrosine 221.
Immunogen Type	Peptide-KLH
Immunogen Description	Peptide sequence around phosphorylation site of tyrosine 221(Q-D-Y(p)-H-I)derived from Human JAK2.
Target Name	JAK2
Modification	Phospho
Other Names	JTK10; THCYT3
Accession No.	Swiss-Prot: O60674NCBI Gene ID: 3717NCBI mRNA: NM_004972.3NCBI Protein: NP_004963.1
Uniprot	O60674
GeneID	3717;
Concentration	1.0mg/ml
Formulation	Supplied at 1.0mg/mL in phosphate buffered saline (without Mg ²⁺ and Ca ²⁺), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C

Application Details

Predicted MW: 125kd

Immunohistochemistry: 1:50~1:100

Images



Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue, using JAK2 (phospho-Tyr221) antibody (#11150).

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.

Dawson M.A., Bannister A.J., Gottgens B., Foster S.D., Bartke T., Green A.R., Kouzarides T. *Nature* 461:819-822(2009)

Guilluy C., Bregeon J., Toumaniantz G., Rolli-Derkinderen M., Retailleau K., Loufrani L., Henrion D., Scalbert E., Bril A., Torres R.M., Offermanns S., Pacaud P., Loirand G.

Nat. Med. 16:183-190(2010)

The cancer genome project Baxter E.J., Scott L.M., Campbell P.J., East C., Fourouclas N., Swanton S., Vassiliou G.S., Bench A.J., Boyd E.M., Curtin N., Scott M.A., Erber W.N., Green A.R. *Lancet* 365:1054-1061(2005)

Note: This product is for in vitro research use only