

Anti-Phospho-JAK2 (Y570) Antibody

Catalog Number: A00027Y570-1

About JAK2

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)

Overview

Product Name	Anti-Phospho-JAK2 (Y570) Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Phospho-JAK2 (Y570) Antibody catalog # A00027Y570-1. Tested in ELISA, IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	ELISA, IHC, WB
Clonality	Polyclonal PI9-17
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Storage Instructions	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	O60674

Technical Details

Immunogen	Synthesized peptide derived from human JAK2 around the phosphorylation site of Y570.
Predicted Reactive Species	Bovine, Chicken
Cross Reactivity	Weakly cross-reacts with dog p53.
Isotype	IgG
Form	Liquid
Concentration	1 mg/ml
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Suggested Dilutions	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>WB 1:500-1:2000</p> <p>IHC 1:100-1:300</p> <p>ELISA 1:5000</p>

Anti-Phospho-JAK2 (Y570) Antibody (A00027Y570-1) Images

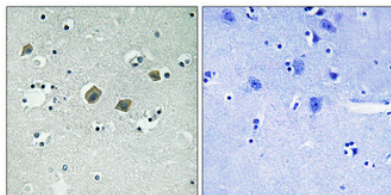


Figure 2. Immunohistochemistry validation of JAK2 using Anti-Phospho-JAK2 (Y570) Antibody (A00027Y570-1).

Immunohistochemical analysis of paraffin-embedded Human brain. Antibody was diluted at 1:100 (4°C

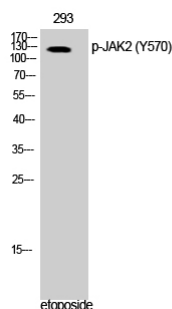


Figure 1. Western blotting validation for Anti-Phospho-JAK2 (Y570) Antibody A00027Y570-1

Western Blot (WB) analysis of 293 cells using Phospho-JAK2 (Y570) polyclonal antibody. Electrophoresis was performed on a SDS-PAGE gel. To determine SDS-PAGE gel concentration

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