

12-4343: Phospho-Jak2 (Tyr1007/1008) (Clone: PB6) rabbit mAb

Clonality :	Monoclonal
Clone Name :	Jak2Y10071008-PB6
Application :	FACS
Reactivity :	Human
Conjugate :	Unconjugated
Format :	Purified
Alternative Name :	Tyrosine-protein kinase JAK2, Janus kinase 2, JAK-2
Isotype :	Rabbit IgG1k
Immunogen Information :	A synthetic phospho-peptide corresponding to residues surrounding Tyr1007/Tyr1008 of human phospho Jak2

Description

Janus kinases (JAKs) are known as non-receptor protein tyrosine kinases. They serve as the catalytic signaling components for a wide range of cytokine receptors, including the receptors for prolactin, interferons, interleukins 3,5 and 6, granulocyte-macrophage colony-stimulating factor (GM-CSF), erythropoietin, thrombopoietin (TPO), leptin, and growth hormone (1). JAKs comprise four intercellular proteins: JAK1-3 and TYK2 (tyrosine kinase-2). They are constitutively associated with the proximal intracellular membrane region of cytokine receptors. In general, binding of cytokines to the extracellular region of their cognate receptors induces conformational changes leading to phosphorylation of JAKs through reciprocal interaction of two juxtapositional JAKs. Hence, JAK activation requires two JAK isoforms either as homodimers or heterodimers to auto-phosphorylate. Consequently, several different combinations of JAKs are associated with different cytokine receptors to recruit and phosphorylate other signaling molecules including members of STAT family (STAT1, STAT2, STAT3, STAT4, STAT5 or STAT6) of DNA binding proteins (2). Specific cytokine receptors belonging to a subclass that includes erythropoietin receptor (EpoR) and growth hormone receptor (GHR) are homodimeric and bind JAK2 exclusively. Once activated, JAKs phosphorylate specific tyrosine residues on the cytokine receptors and subsequently on signal transducer and activator of transcription (STAT) proteins (3), which are recruited to the phosphorylated receptors through their SH2 (Src-homology 2) domains. STATs are transcription factor and after phosphorylation, they translocate to the nucleus to initiate specific transcriptional programs. JAK-STAT signaling pathways are critical for organismal development and homeostasis, particularly in immunity (3).

Product Info

Amount :	20 µl / 200 µl
Content :	1X PBS, 0.02% NaN ₃ , 50% Glycerol, 0.1% BSA
Storage condition :	Store at -20°C. Avoid repeated freeze and thaw cycles.

Application Note

1 µg/mL - 0.001 µg/mL. It is recommended that the reagent be titrated for optimal performance for each application. See product image legends for additional information.(0.5mg/ml, more than 200 western blots)

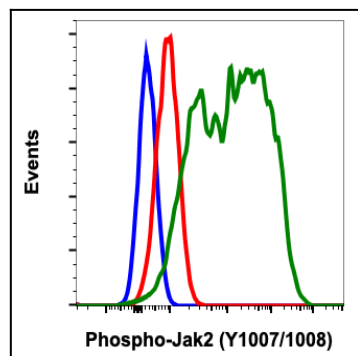


Fig-1: Flow cytometric analysis of Jurkat cells, secondary antibody only negative control (blue) or untreated (red) or treated with IFN α + IL-4 + pervanadate (green) using Phospho-Jak2 (Tyr1007/1008) antibody Jak2Y10071008-PB6 at 0.1 μ g/mL.

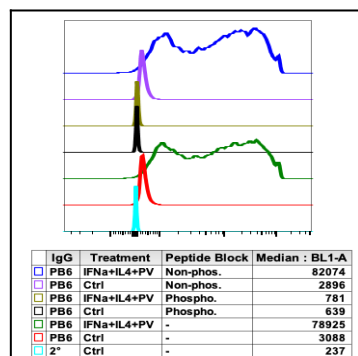


Fig 2 : Peptide blocking flow cytometric analysis of Jurkat cells, secondary antibody only negative control (light blue) or untreated (red) or treated with IFN α + IL-4 + pervanadate (green) or untreated and blocked with phospho-peptide (black) or treated and blocked with phospho peptide (gold) or untreated and blocked with non-phospho peptide (dark blue) or treated and blocked with non-phospho peptide (purple) using Phospho-Jak2 (Tyr1007/1008) antibody Jak2Y10071008-PB6at 0.1 μ g/mL.