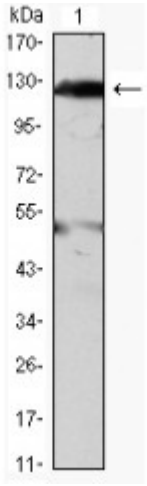
Anti-JAK2 antibody



Description	Mouse monoclonal to JAK2.

Model	STJ98187
Host	Mouse
Reactivity	Human
Applications	ELISA, WB
Immunogen	Purified recombinant fragment of JAK2 (aa745-955) expressed in E. Coli.
Immunogen Region	745-955aa
Gene ID	3717
Gene Symbol	JAK2
Dilution range	WB 1:500-1:2000ELISA 1:10000
Specificity	JAK2 Monoclonal Antibody detects endogenous levels of JAK2 protein.
Tissue Specificity	Ubiquitously expressed throughout most tissues.
Purification	Affinity purification
Clone ID	1C1
Note	For Research Use Only (RUO).
Protein Name	Tyrosine-protein kinase JAK2 Janus kinase 2 JAK-2
Clonality	Monoclonal
Conjugation	Unconjugated

Isotype	IgG1
Formulation	Ascitic fluid containing 0.03% sodium azide.
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:6192OMIM:147796
Alternative Names	Tyrosine-protein kinase JAK2 Janus kinase 2 JAK-2
Function	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 .
Sequence and Domain Family	Possesses 2 protein kinase domains. The second one probably contains the catalytic domain, while the presence of slight differences suggest a different role for protein kinase 1 .
Cellular Localization	Endomembrane system Cytoplasm Nucleus
Post-translational Modifications	Autophosphorylated, leading to regulate its activity. Leptin promotes phosphorylation on tyrosine residues, including phosphorylation on Tyr-813 . Autophosphorylation on Tyr-119 in response to EPO down-regulates its kinase activity . Autophosphorylation on Tyr-868, Tyr-966 and Tyr-972 in response to growth hormone (GH) are required for maximal kinase activity . Also phosphorylated by TEC . Phosphorylated on tyrosine residues in response to interferon gamma signaling .