

ARG66664
anti-JAK2 antibodyPackage: 100 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes JAK2
Tested Reactivity	Hu, Ms, Rat
Tested Application	IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	JAK2
Species	Human
Immunogen	Synthetic peptide corresponding to aa. 191-240 of Human JAK2.
Conjugation	Un-conjugated
Alternate Names	Janus kinase 2; JAK-2; JTK10; Tyrosine-protein kinase JAK2; THCYT3; EC 2.7.10.2

Application Instructions

Application table	Application	Dilution
	IHC-P	1:100 - 1:300
	WB	1:500 - 1:2000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Observed Size	130 ~ 135 kDa	

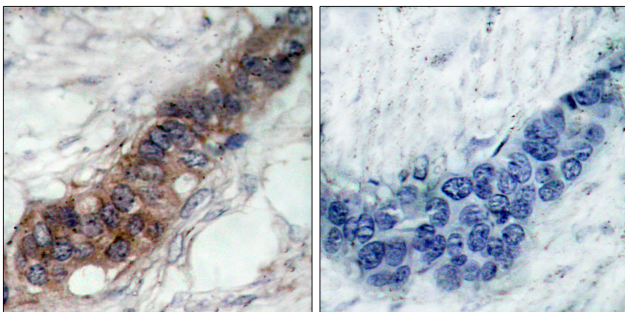
Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS, 0.02% Sodium azide, 50% Glycerol and 0.5% BSA.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol and 0.5% BSA
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

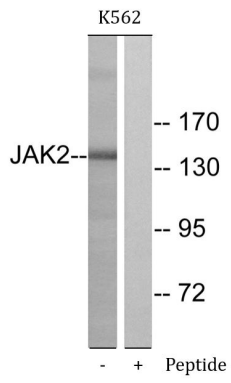
Gene Symbol	JAK2
Gene Full Name	Janus kinase 2
Background	This gene product is a protein tyrosine kinase involved in a specific subset of cytokine receptor signaling pathways. It has been found to be constitutively associated with the prolactin receptor and is required for responses to gamma interferon. Mice that do not express an active protein for this gene exhibit embryonic lethality associated with the absence of definitive erythropoiesis. [provided by RefSeq, Jul 2008]
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. [UniProt]
Calculated Mw	131 kDa
PTM	Autophosphorylated, leading to regulate its activity. Leptin promotes phosphorylation on tyrosine residues, including phosphorylation on Tyr-813 (By similarity). Autophosphorylation on Tyr-119 in response to EPO down-regulates its kinase activity (By similarity). Autophosphorylation on Tyr-868, Tyr-966 and Tyr-972 in response to growth hormone (GH) are required for maximal kinase activity (By similarity). Also phosphorylated by TEC (By similarity). Phosphorylated on tyrosine residues in response to interferon gamma signaling (PubMed:7615558, PubMed:7673114). [UniProt]
Cellular Localization	Endomembrane system; Peripheral membrane protein. Cytoplasm. Nucleus. [UniProt]

Images



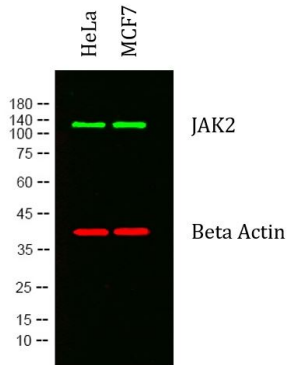
ARG66664 anti-JAK2 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human breast carcinoma tissue stained with ARG66664 anti-JAK2 antibody. The picture on the right was blocked with the synthetic peptide.



ARG66664 anti-JAK2 antibody WB image

Western blot: K562 cell lysate stained with ARG66664 anti-JAK2 antibody. The lane on the right was blocked with the synthetic peptide.



ARG66664 anti-JAK2 antibody WB image

Western blot: HeLa and MCF7 cell lysates stained with ARG66664 anti-JAK2 antibody (green) at 1:1000 dilution, overnight at 4°C. Loading control antibody (red) at 1:5000 dilution, overnight at 4°C.