

# JAK2 Polyclonal Antibody Cy5 Conjugated

Catalog No: #C00490Cy5

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## Description

Product Name	JAK2 Polyclonal Antibody Cy5 Conjugated
Host Species	Rabbit
Clonality	Polyclonal
Isotype	IgG
Purification	Purified by Protein A.
Applications	IF(IHC-P)
Species Reactivity	Hu Ms Rt
Immunogen Description	KLH conjugated synthetic peptide aa 623-666 1132 derived from human JAK2
Conjugates	Cy5
Target Name	JAK2
Other Names	JTK1; THCYT3; Tyrosine-protein kinase JAK2; Janus kinase 2; JAK-2; JAK2
Accession No.	Swiss-Prot#:O60674NCBI Gene ID:3717
Cell Localization	Cytoplasm, Nucleus, Cell membrane
Concentration	1mg ml
Formulation	Aqueous buffered solution containing 1% BSA, 50% glycerol and 0.09% sodium azide.
Storage	Store at 4C for 12 months.

## Application Details

IF:1:50-200

## 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.

**Note:** This product is for in vitro research use only and is not intended for use in humans or animals.