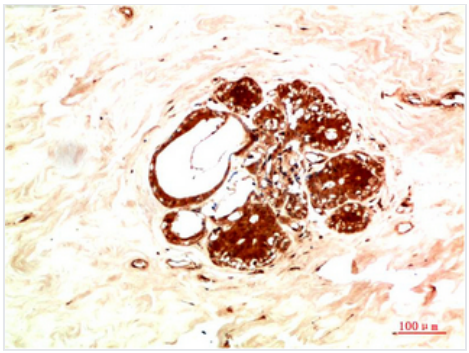
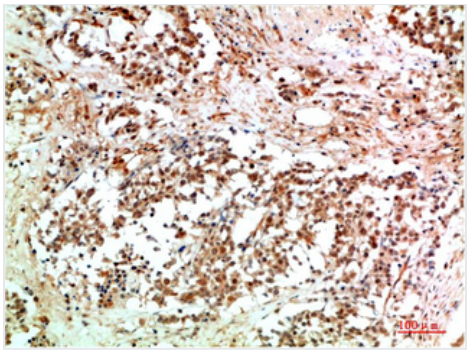
JAK2 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	JAK2, Polyclonal Antibody
Full Product Name	JAK2 Rabbit Polyclonal Antibody
Product Gene Name	anti-JAK2 antibody
Product Synonym Names	Tyrosine-protein kinase JAK2 (EC 2.7.10.2)(Janus kinase 2)(JAK-2)
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 2 weeks. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.
Molecular Weight	130,674 Da
Chromosome Location	Chromosome: 9; NC_000009.11 (4985245..5128183). Location: 9p24
OMIM	147796
3D Structure	ModBase 3D Structure for O60674
Applications Tested/Suitable for anti-JAK2 antibody	Immunohistochemistry-Paraffin (IHC-P)
Related Product Information for anti-JAK2 antibody	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 (PubMed:7615558). Following ligand-binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins (PubMed:9618263). 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. Part of a signaling cascade that is activated by increased cellular retinol and that leads to the activation of STAT5 (STAT5A or STAT5B)(PubMed:21368206). In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation (PubMed:20098430). Plays a role in cell cycle by phosphorylating CDKN1B (PubMed:21423214). 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 (PubMed:19783980).
Other Notes	Small volumes of anti-JAK2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for JAK2 purchase	MBS9241860 is an antibody targeting JAK2. Also known as JAK2 Rabbit Polyclonal Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Immunohistochemistry (IHC) of anti-JAK2 antibody
Dilution: IHC-p 1:50-300



Testing Data of anti-JAK2 antibody
Dilution: IHC-p 1:50-300

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for JAK2. It may not necessarily be applicable to this product.

NCBI GI #	4826776
NCBI GeneID	3717
NCBI Accession #	NP_004963.1
UniProt Primary Accession #	O60674
UniProt Secondary Accession #	O14636; O75297
UniProt Related Accession #	O60674
GenBank Nucleotide #	NM_004972.3
NCBI Official Full Name	tyrosine-protein kinase JAK2
NCBI Official Synonym Full Names	Janus kinase 2
NCBI Official Symbol	JAK2
NCBI Official Synonym Symbols	JTK10; THCYT3
UniProt Protein Name	Tyrosine-protein kinase JAK2
UniProt Synonym Protein Names	Janus kinase 2
Protein Family	Tyrosine-protein kinase
UniProt Gene Name	JAK2
UniProt Synonym Gene Names	JAK-2
UniProt Entry Name	JAK2_HUMAN
NCBI Protein Information	tyrosine-protein kinase JAK2; JAK-2; Janus kinase 2 (a protein tyrosine kinase)
NCBI Summary for JAK2	This gene product is a protein tyrosine kinase involved in a specific subset of cytokine receptor signaling pathways. It has been found to be constituitively 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]

UniProt Comments for JAK2	JAK2: a non-receptor tyrosine-kinase involved in a specific subset of cytokine receptor signaling pathways, including IL-3, -5 and GM-CSF. Interacts with IL23R, SKB1 and STAM2. 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. Fusion of Jak2 to TEL1 (ETV6) by t(9;12)(p24;p13) causes myeloproliferative disease in humans and mouse models. The Jak inhibitor AG490 inhibits constitutive Jak2 phosphorylation and causes apoptosis in cells from breast cancer and relapsing acute lymphoblastic leukemia. A single activating mutation is associated with several hematological malignancies. Inhibitor: AG490. Protein type: Protein kinase, TK; Kinase, protein; Protein kinase, tyrosine (non-receptor); EC 2.7.10.2; Oncoprotein; TK group; JakA family Chromosomal Location of Human Ortholog: 9p24 Cellular Component: nucleoplasm; extrinsic to internal side of plasma membrane; cytoskeleton; nuclear matrix; cytoplasm; caveola; nucleus; cytosol; lipid raft Molecular Function: protein C-terminus binding; histone binding; non-membrane spanning protein tyrosine kinase activity; acetylcholine receptor binding; protein kinase binding; protein kinase activity; interleukin-12 receptor binding; protein binding; growth hormone receptor binding; peptide hormone receptor binding; insulin receptor substrate binding; protein-tyrosine kinase activity; heme binding; phosphoinositide 3-kinase binding; type 1 angiotensin receptor binding; SH2 domain binding; ATP binding; receptor binding Biological Process: establishment and/or maintenance of chromatin architecture; positive regulation of nitric oxide biosynthetic process; activation of MAPKK activity; tyrosine phosphorylation of Stat3 protein; response to lipopolysaccharide; tyrosine phosphorylation of JAK2 protein; protein amino acid phosphorylation; enzyme linked receptor protein signaling pathway; positive regulation of tyrosine phosphorylation of Stat3 protein; regulation of apoptosis; response to antibiotic; elevation of cytosolic calcium ion concentration; tumor necrosis factor-mediated signaling pathway; erythrocyte differentiation; mesoderm development; negative regulation of neuron apoptosis; positive regulation of cell activation; positive regulation of DNA binding; positive regulation of protein import into nucleus, translocation; axon regeneration; positive regulation of insulin secretion; JAK-STAT cascade; positive regulation of tumor necrosis factor production; tyrosine phosphorylation of Stat5 protein; positive regulation of phosphoinositide 3-kinase cascade; tyrosine phosphorylation of STAT protein; positive regulation of peptidyl-tyrosine phosphorylation; response to hydroperoxide; mineralocorticoid receptor signaling pathway; tyrosine phosphorylation of Stat1 protein; positive regulation of transcription from RNA polymerase II promoter; positive regulation of transcription factor activity; positive regulation of cell differentiation; positive regulation of nitric-oxide synthase biosynthetic process; positive regulation of phosphoprotein phosphatase activity; peptidyl-tyrosine phosphorylation; hormone-mediated signaling; negative regulation of heart contraction; apoptosis; protein amino acid autophosphorylation; platelet-derived growth factor receptor signaling pathway; signal transduction; host programmed cell death induced by symbiont; negative regulation of cell proliferation; actin filament polymerization; positive regulation of cell proliferation; cell differentiation; STAT protein nuclear translocation; caspase activation; cell migration; cytokine and chemokine mediated signaling pathway; negative regulation of DNA binding; regulation of cell proliferation; positive regulation of interleukin-1 beta production; G-protein coupled receptor protein signaling pathway; positive regulation of tyrosine phosphorylation of Stat5 protein; regulation of inflammatory response; innate immune response; negative regulation of cell-cell adhesion; cell motility; blood coagulation; induction of apoptosis by oxidative stress; positive regulation of cell migration; positive regulation of inflammatory response Disease: Polycythemia Vera; Myelofibrosis; Budd-chiari Syndrome; Erythrocytosis, Familial, 1; Thrombocythemia 3
Research Articles on JAK2	**1.** JAK2 rs2203724 was not associated with idiopathic recurrent miscarriage among Bahraini and Tunisian Arabs.
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