Best Tools for immunology Research

JAK2 protein

Catalog No :	YD0056
Reactivity :	Human
Applications :	WB;SDS-PAGE
Gene Name :	JAK2
Protein Name :	JAK2 protein
Sequence :	Amino acid: 121-361, with his-MBP tag.
Human Gene Id :	3717
Human Swiss Prot No :	O60674
Mouse Swiss Prot No :	Q62120
Formulation :	Liquid in PBS
Source :	E.coli
Dilution :	WB 1:500-2000
Concentration :	SDS-PAGE >90%
Storage Stability :	-20°C/6 mouth,-80°C for long storage
Background :	catalytic activity:ATP + a [protein]-L-tyrosine = ADP + a [protein]-L-tyrosine phosphate.,disease:Chromosomal aberrations involving JAK2 are found in both chronic and acute forms of eosinophilic, lymphoblastic and myeloid leukemia. Translocation t(8;9)(p22;p24) with PCM1 links the protein kinase domain of JAK2 to the major portion of PCM1. Translocation t(9;12)(p24;p13) with ETV6.,disease:Defects in JAK2 are a cause of acute myelogenous leukemia (AML) [MIM:601626]. AML is a malignant disease in which hematopoietic precursors are arrested in an early stage of development.,disease:Defects in JAK2 are a cause of susceptibility to Budd-Chiari syndrome [MIM:600880]. Budd-Chiari syndrome is a spectrum of disease states, including anatomic abnormalities and hypercoagulable disorders, resulting in hepatic venous outflow

occlusion. Clinical manifestations observed in the majority of patients include hepatomegaly, right upper quadrant pain, and abdominal ascites.,disease:Defects in JAK2 are associated with familial myelofibrosis [MIM:254450]. Myelofibrosis with myeloid metaplasia is a myeloproliferative disease with annual incidence of 0.5-1.5 cases per 100,000 individuals and age at diagnosis around 60 (an increased prevalence is noted in Ashkenazi Jews). Clinical manifestations depend on the type of blood cell affected and may include anemia, pallor, splenomegaly, hypermetabolic state, petechiae, ecchymosis, bleeding, lymphadenopathy, hepatomegaly, portal hypertension.,disease:Defects in JAK2 are associated with polycythemia vera (PV) [MIM:263300]. PV, the most common form of primary polycythemia, is caused by somatic mutation in a single hematopoietic stem cell leading to clonal hematopoiesis. PV is a myeloproliferative disorder characterized predominantly by erythroid hyperplasia, but also by myeloid leukocytosis, thrombocytosis, and splenomegaly. Familial cases of PV are very rare and usually manifest in elderly patients.,disease:Defects in JAK2 gene may be a cause of essential thrombocythemia (ET) [MIM:187950]. ET is characterized by elevated platelet levels due to sustained proliferation of megakaryocytes, and frequently lead to thrombotic and haemorrhagic complications.,domain:Possesses two phosphotransferase domains. The second one probably contains the catalytic domain (By similarity), while the presence of slight differences suggest a different role for domain 1.,function:Plays a role in leptin signaling and control of body weight (By similarity). Tyrosine kinase of the non-receptor type, involved in interleukin-3 and probably interleukin-23 signal transduction.,PTM:Leptin promotes phosphorylation on tyrosine residues, including phosphorylation on Tyr-813.,similarity:Belongs to the protein kinase superfamily. Tyr protein kinase family.,similarity:Belongs to the protein kinase superfamily. Tyr protein kinase family. JAK subfamily.,similarity:Contains 1 FERM domain.,similarity:Contains 1 protein kinase domain.,similarity:Contains 1 SH2 domain.,subcellular location:Wholly intracellular, possibly membrane associated.,subunit:Interacts with SIRPA and SH2B1 (By similarity). Interacts with IL23R, SKB1 and STAM2.,tissue specificity:Expressed in blood, bone marrow and lymph node.,

Function :

protein import into nucleus, translocation, MAPKKK cascade, activation of MAPKK activity, cell morphogenesis, cell morphogenesis involved in differentiation, regulation of cytokine production, positive regulation of cytokine production,regulation of protein amino acid phosphorylation, positive regulation of protein amino acid phosphorylation, immune system development, regulation of peptide secretion, positive regulation of peptide secretion, protein amino acid phosphorylation, protein targeting, protein import into nucleus, phosphorus metabolic process, phosphate metabolic process, cellular ion homeostasis, cellular calcium ion homeostasis, cellular metal ion homeostasis, intracellular protein transport, nucleocytoplasmic transport, apoptosis, induction of apoptosis, cell motion, response to oxidative stress,negative regulation of cell adhesion, cell surface receptor linked signal trans

Subcellular Location :

Endomembrane system ; Peripheral membrane protein . Cytoplasm . Nucleus .

Expression : Ubiquitously expressed throughout most tissues.

Products Images