

## JAK2 (Phospho Tyr221) Rabbit pAb

CatalogNo: YP0574

### Key Features

#### Host Species

- Rabbit

#### Reactivity

- Human, Mouse, Rat

#### Applications

- WB, IHC, IF, ELISA

#### MW

- 130kD (Observed)

#### Isotype

- IgG

### Storage

**Storage\*** -15°C to -25°C/1 year (Do not lower than -25°C)

**Formulation** Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

### Recommended Dilution Ratios

**WB 1:500-1:2000**

**IHC 1:100-1:300**

**ELISA 1:10000**

**IF 1:50-200**

### Basic Information

**Clonality** Polyclonal

### Immunogen Information

**Immunogen** The antiserum was produced against synthesized peptide derived from human JAK2 around the phosphorylation site of Tyr221. AA range:191-240

## Specificity

Phospho-JAK2 (Y221) Polyclonal Antibody detects endogenous levels of JAK2 protein only when phosphorylated at Y221. The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):QDyHI

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## | Target Information

**Gene name** JAK2

**Protein Name** Tyrosine-protein kinase JAK2

Organism	Gene ID	UniProt ID
Human	<a href="#">3717;</a>	<a href="#">O60674;</a>
Mouse	<a href="#">16452;</a>	<a href="#">Q62120;</a>
Rat	<a href="#">24514;</a>	<a href="#">Q62689;</a>

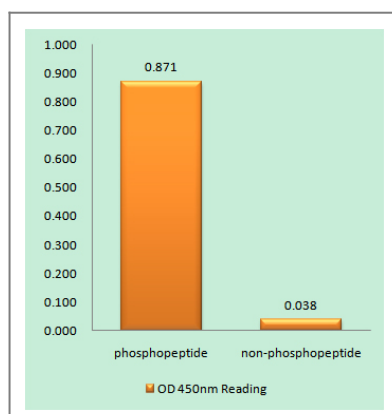
**Cellular Localization** Endomembrane system ; Peripheral membrane protein . Cytoplasm . Nucleus .

**Tissue specificity** Ubiquitously expressed throughout most tissues.

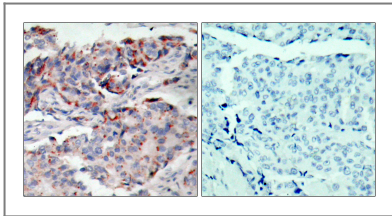
## Function

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. ,

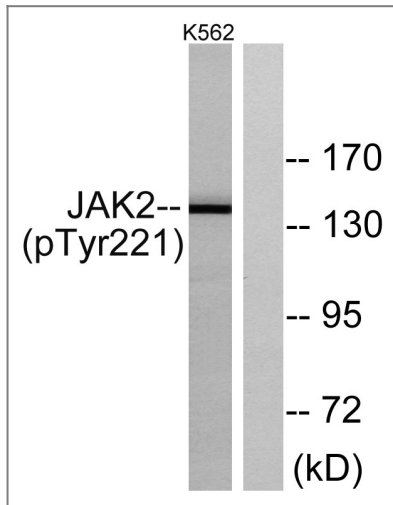
## Validation Data



Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using JAK2 (Phospho-Tyr221) Antibody



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma, using JAK2 (Phospho-Tyr221) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from K562 cells, using JAK2 (Phospho-Tyr221) Antibody. The lane on the right is blocked with the phospho peptide.

## Contact information

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