

Phospho-JAK2-Y221 Rabbit pAb

Catalog No.: AP0374

Basic Information

Observed MW

125kDa

Calculated MW

131kDa

Category

Primary antibody

Applications

ELISA,WB

Cross-Reactivity

Human, Mouse, Rat

Background

This gene encodes a non-receptor tyrosine kinase that plays a central role in cytokine and growth factor signalling. The primary isoform of this protein has an N-terminal FERM domain that is required for erythropoietin receptor association, an SH2 domain that binds STAT transcription factors, a pseudokinase domain and a C-terminal tyrosine kinase domain. Cytokine binding induces autophosphorylation and activation of this kinase. This kinase then recruits and phosphorylates signal transducer and activator of transcription (STAT) proteins. Growth factors like TGF-beta 1 also induce phosphorylation and activation of this kinase and translocation of downstream STAT proteins to the nucleus where they influence gene transcription. Mutations in this gene are associated with numerous inflammatory diseases and malignancies. This gene is a downstream target of the pleiotropic cytokine IL6 that is produced by B cells, T cells, dendritic cells and macrophages to produce an immune response or inflammation. Disregulation of the IL6/JAK2/STAT3 signalling pathways produces increased cellular proliferation and myeloproliferative neoplasms of hematopoietic stem cells. A nonsynonymous mutation in the pseudokinase domain of this gene disrupts the domains inhibitory effect and results in constitutive tyrosine phosphorylation activity and hypersensitivity to cytokine signalling. This gene and the IL6/JAK2/STAT3 signalling pathway is a therapeutic target for the treatment of excessive inflammatory responses to viral infections. Alternative splicing results in multiple transcript variants encoding distinct isoforms.

Recommended Dilutions

WB 1:500 - 1:2000

Immunogen Information

Gene ID

3717

Swiss Prot

O60674

Immunogen

A synthetic phosphorylated peptide around Y221 of human JAK2 (NP_004963.1).

Synonyms

JTK10; Phospho-JAK2-Y221

Contact

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Product Information

Source

Rabbit

Isotype

IgG

Purification

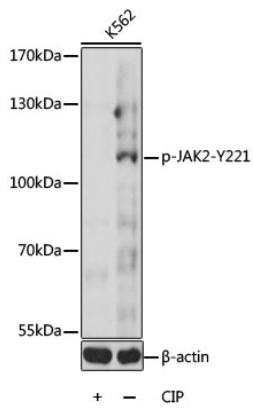
Affinity purification

Storage

Store at -20°C. Avoid freeze / thaw cycles.

Buffer: PBS with 0.01% thimerosal, 50% glycerol, pH7.3.

Validation Data



Western blot analysis of lysates from K562 cells, using Phospho-JAK2-Y221 Rabbit pAb (AP0374) at 1:1000 dilution. K562 cells were treated by CIP (20ul CIP for each 400ul cell lysate) at 37°C for 1 hour. Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution. Lysates/proteins: 25µg per lane. Blocking buffer: 3% BSA. Detection: ECL Basic Kit (RM00020). Exposure time: 30s.