

## Recombinant Human JAK2 (V617F) (JH1, JH2 Domain) Protein, GST/Avi-tagged, Biotin-labeled

Cat. No. JAK2-24H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Human Jak2 containing the catalytic and the pseudo kinase domain, also known as Janus kinase-2, Just Another Kinase 2, Jak-2-JH1 and JH2, GenBank Accession No. NM\_004972, a.a. 513-1132(end), with V617F mutation; with N-terminal GST-Tag and C-terminal Avi-Tag, co-expressed with PTP1B for dephosphorylation in HEK293 expression system. This protein is enzymatically Biotin-labeled using Avi-Tag™ technology. Biotinylation is confirmed to be ≥90%.

**Species** Human

**Source** HEK293

**ProteinLength** 513-1132

**Description** 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

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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.

<b>Form</b>	Aqueous buffer solution
<b>Molecular Mass</b>	100 kDa
<b>Usage</b>	Assay was performed according to the TYR Phosphorylation Assay Kit, with both phosphorylated JAK2 (standard) and JAK2 titrated from 500 ng to 0 ng.
<b>Storage</b>	At least 6 months at –80 centigrade. Storing diluted enzyme is not recommended, if necessary, use carrier protein (BSA 0.1-0.5%).
<b>Concentration</b>	0.2 mg/mL
<b>Storage Buffer</b>	40 mM Tris-HCl, pH 8.0, 110 mM NaCl, 2.2 mM KCl, 0.04% Tween-20, 16 mM Glutathione, 3 mM DTT, 20% glycerol.
<b>Conjugation</b>	Biotin

## GENE INFORMATION

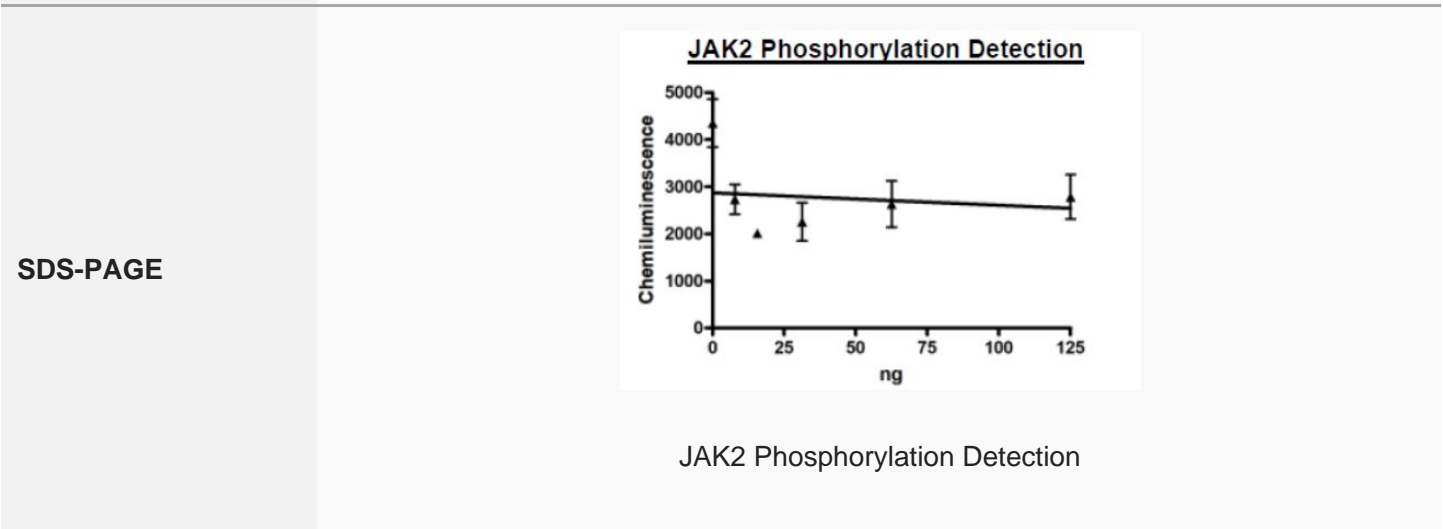
**Gene Name** [JAK2 Janus kinase 2 \[ Homo sapiens \(human\) \]](#)

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<b>Official Symbol</b>	JAK2
<b>Synonyms</b>	JAK2; Janus kinase 2; JTK10; tyrosine-protein kinase JAK2; JAK-2; Janus kinase 2 (a protein tyrosine kinase); EC 2.7.10.2; jak; jh1
<b>Gene ID</b>	3717
<b>mRNA Refseq</b>	NM_004972
<b>Protein Refseq</b>	NP_004963
<b>MIM</b>	147796
<b>UniProt ID</b>	O60674



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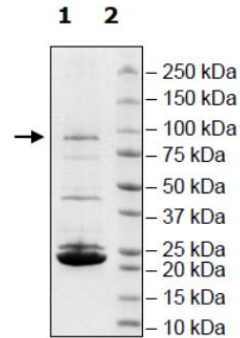
**SDS-PAGE**


**4-20% SDS-PAGE  
Coomassie staining**

**Lane 1:**  
JAK2  
**Lane 2:**  
Protein Marker


**Purity:** ≥8%

**MW:** 100 kDa



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