

## Active Recombinant Human JAK1, GST-tagged

Cat. No. JAK1-670H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Human Jak1 (Janus kinase 1), also known as JTK3, GenBank Accession No. NM\_002227, a.a. 866-1155(end) with N-terminal GST-Tag, MW= 59 kDa, expressed in Sf9 cells via a baculovirus expression system.

**Species** Human

**Source** Sf9 Cells

**ProteinLength** 866-1155 a.a.

**Description** Janus kinase 1 (JAK1), is a member of a new class of protein-tyrosine kinases (PTK) characterized by the presence of a second phosphotransferase-related domain immediately N-terminal to the PTK domain. The second phosphotransferase domain bears all the hallmarks of a protein kinase, although its structure differs significantly from that of the PTK and threonine/serine kinase family members. JAK1 is a large, widely expressed membrane-associated phosphoprotein. JAK1 is involved in the interferon-alpha/beta and -gamma signal transduction pathways. The reciprocal interdependence between JAK1 and TYK2 activities in the interferon-alpha pathway, and between JAK1 and JAK2 in the interferon-gamma pathway, may reflect a requirement for these kinases in the correct assembly of interferon receptor complexes. These kinases couple cytokine ligand binding to tyrosine phosphorylation of various known signaling proteins and of a unique family of transcription factors termed the signal transducers and activators of transcription, or STATs.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

<b>Form</b>	40 mM Tris-HCl pH 8.0, 110 mM NaCl, 2.2 mM KCl, 3 mM DTT, 16 mM glutathione and 20% glycerol.
<b>Bio-activity</b>	1.0 pmole/min/μg. Enzyme reaction is conducted at 30°C for 1 hour in a buffer containing 50 mM HEPES (pH 7.5), 10 mM MgCl <sub>2</sub> , 1 mM EGTA, 200 μM ATP, 0.01% Brij-35 and 2 μM substrate (Tyr6, Invitrogen) using Z-Lyte assay conditions.
<b>Molecular Mass</b>	59 kDa
<b>Purity</b>	≥ 35%
<b>Applications</b>	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.
<b>Stability</b>	>6 months at -80°C

## GENE INFORMATION

<b>Gene Name</b>	JAK1 Janus kinase 1 [ Homo sapiens (human) ]
<b>Official Symbol</b>	JAK1
<b>Synonyms</b>	JAK1; JTK3; JAK1A; JAK1B; Janus kinase 1; tyrosine-protein kinase JAK1; EC 2.7.10.2
<b>Gene ID</b>	3716
<b>mRNA Refseq</b>	NM_002227
<b>Protein Refseq</b>	NP_002218
<b>MIM</b>	147795

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<b>UniProt ID</b>	P23458
<b>Chromosome Location</b>	1p32.3-p31.3
<b>Pathway</b>	Antiviral mechanism by IFN-stimulated genes; Cytokine Signaling in Immune system; Epstein-Barr virus infection
<b>Function</b>	ATP binding; growth hormone receptor binding; non-membrane spanning protein tyrosine kinase activity

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