JAK1 Protein, Human (P. pastoris, His)

Cat. No.:	HY-P700583
Synonyms:	JAK1; JAK1A; JAK1B; Tyrosine-protein kinase JAK1; Janus kinase 1; JAK-1
Species:	Human
Source:	P. pastoris
Accession:	P23458 (E850-K1154)
Gene ID:	3716
Molecular Weight:	36.9 kDa

PROPERTIES

AA Sequence	E Q N P D I V S E K K P A T E V D P T H F E K R F L K R I R D L G E G H F G K V E L C R Y D P E G D N T G E Q V A V K S L K P E S G G N H I A D L K K E I E I L R N L Y H E N I V K Y K G I C T E D G G N G I K L I M E F L P S G S L K E Y L P K N K N K I N L K Q Q L K Y A V Q I C K G M D Y L G S R Q Y V H R D L A A R N V L V E S E H Q V K I G D F G L T K A I E T D K E Y Y T V K D D R D S P V F W Y A P E C L M Q S K F Y I A S D V W S F G V T L H E L L T Y C D S D S S P M A L F L K M I G P T H G Q M T V T R L V N T L K E G K R L P C P P N C P D E V Y Q L M R K C W E F Q P S N R T S F Q N L I E G F E A L L K
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, 6% Trehalose, pH 7.4 or 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	JAK1 protein, a non-receptor tyrosine kinase, plays a crucial role in the IFN-alpha/beta/gamma signal pathway, as evidenced by various studies. It acts as a kinase partner for the interleukin (IL)-2 receptor and IL-10 receptor, demonstrating its versatility in different cytokine signaling pathways. Moreover, JAK1 serves as a kinase partner for the type I interferon

receptor IFNAR2, and upon interferon binding to the IFNAR1-IFNAR2 heterodimer, it phosphorylates and activates IFNAR2, creating docking sites for STAT proteins. JAK1 not only directly phosphorylates STAT proteins but also activates STAT signaling by transactivating other JAK kinases associated with signaling receptors. This multifaceted involvement positions JAK1 as a central player in the intricate network of signaling pathways, contributing to the regulation of immune responses and cellular processes.

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