Datasheet for ABIN7554274

JAK2 Protein (AA 1-1132) (His tag)

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Overview

Quantity:	1 mg
Target:	JAK2
Protein Characteristics:	AA 1-1132
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This JAK2 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Purpose:	Custom-made recombinat JAK2 Protein expressed in mammalien cells.
Sequence:	MGMACLTMTE MEGTSTSSIY QNGDISGNAN SMKQIDPVLQ VYLYHSLGKS EADYLTFPSG EYVAEEICIA ASKACGITPV YHNMFALMSE TERIWYPPNH VFHIDESTRH NVLYRIRFYF PRWYCSGSNR AYRHGISRGA EAPLLDDFVM SYLFAQWRHD FVHGWIKVPV THETQEECLG MAVLDMMRIA KENDQTPLAI YNSISYKTFL PKCIRAKIQD YHILTRKRIR YRFRRFIQQF SQCKATARNL KLKYLINLET LQSAFYTEKF EVKEPGSGPS GEEIFATIII TGNGGIQWSR GKHKESETLT EQDLQLYCDF PNIIDVSIKQ ANQEGSNESR VVTIHKQDGK NLEIELSSLR EALSFVSLID GYYRLTADAH HYLCKEVAPP AVLENIQSNC HGPISMDFAI SKLKKAGNQT GLYVLRCSPK DFNKYFLTFA VERENVIEYK HCLITKNENE EYNLSGTKKN FSSLKDLLNC YQMETVRSDN IIFQFTKCCP PKPKDKSNLL VFRTNGVSDV PTSPTLQRPT HMNQMVFHKI RNEDLIFNES LGQGTFTKIF KGVRREVGDY GQLHETEVLL KVLDKAHRNY SESFFEAASM MSKLSHKHLV LNYGVCVCGD ENILVQEFVK FGSLDTYLKK NKNCINILWK LEVAKQLAWA

Product Details

	MHFLEENTLI HGNVCAKNIL LIREEDRKTG NPPFIKLSDP GISITVLPKD ILQERIPWVP PECIENPKNL NLATDKWSFG TTLWEICSGG DKPLSALDSQ RKLQFYEDRH QLPAPKWAEL ANLINNCMDY EPDFRPSFRA IIRDLNSLFT PDYELLTEND MLPNMRIGAL GFSGAFEDRD PTQFEERHLK FLQQLGKGNF GSVEMCRYDP LQDNTGEVVA VKKLQHSTEE HLRDFEREIE ILKSLQHDNI VKYKGVCYSA GRRNLKLIME YLPYGSLRDY LQKHKERIDH IKLLQYTSQI CKGMEYLGTK RYIHRDLATR NILVENENRV KIGDFGLTKV LPQDKEYYKV KEPGESPIFW YAPESLTESK FSVASDVWSF GVVLYELFTY IEKSKSPPAE FMRMIGNDKQ GQMIVFHLIE LLKNNGRLPR PDGCPDEIYM IMTECWNNNV NQRPSFRDLA LRVDQIRDNM AG **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalien cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
Grade:	custom-made

Target Details

Target:	JAK2
Alternative Name:	JAK2 (JAK2 Products)
Background:	Tyrosine-protein kinase JAK2 (EC 2.7.10.2) (Janus kinase 2) (JAK-2),FUNCTION: Non-receptor tyrosine kinase involved in various processes such as cell growth, development, differentiation

	or histone modifications. Mediates essential signaling events in both innate and adaptive immunity. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors such as growth hormone (GHR), prolactin (PRLR), leptin (LEPR), erythropoietin (EPOR), thrombopoietin (THPO), or type II receptors including IFN-alpha, IFN-beta, IFN-gamma and multiple interleukins (PubMed:7615558). Following ligand-binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins (PubMed:9618263). Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, cell stimulation with erythropoietin (EPO) during erythropoiesis leads to JAK2 autophosphorylation, activation, and its association with erythropoietin receptor (EPOR) that becomes phosphorylated in its cytoplasmic domain. Then, STAT5 (STAT5A or STAT5B) is recruited, phosphorylated and activated by JAK2. Once activated, dimerized STAT5 translocates into the nucleus and promotes the transcription of several essential genes involved in the modulation of erythropoiesis. Part of a signaling cascade that is activated by increased cellular retinol and that leads to the activation of STAT5 (STAT5A or STAT5B) (PubMed:21368206). In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation (PubMed:20098430). Plays a role in cell cycle by phosphorylating CDKN1B (PubMed:21423214). Cooperates with TEC through reciprocal phosphorylation to mediate cytokine-driven activation of FOS transcription. In the nucleus, plays a key role in chromatin by specifically mediating phosphorylation of 'Tyr-41' of histone H3 (H3Y41ph), a specific tag that promotes exclusion of CBX5 (HP1 alpha) from chromatin (PubMed:19783980). {ECO:0000269|PubMed:12023369, ECO:0000269|PubMed:19783980, ECO:0000269|PubMed:20098430, ECO:0000269|PubMed:21368206, ECO:0000269|PubMed:21423214, ECO:0000269|PubMed:7615558, ECO:0000269|PubMed:9618263}.
Molecular Weight:	130.7 kDa
UniProt:	O60674
Pathways:	JAK-STAT Signaling, RTK Signaling, Interferon-gamma Pathway, Positive Regulation of Peptide Hormone Secretion, Intracellular Steroid Hormone Receptor Signaling Pathway, Response to Growth Hormone Stimulus, Positive Regulation of Endopeptidase Activity, Protein targeting to Nucleus, CXCR4-mediated Signaling Events, Platelet-derived growth Factor Receptor Signaling, Unfolded Protein Response

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months

