Datasheet for ABIN3135500

JAK2 Protein (AA 1-1129) (His tag)

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Overview

Quantity:	1 mg
Target:	JAK2
Protein Characteristics:	AA 1-1129
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This JAK2 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA, Crystallization (Crys)

Product Details

Sequence:	MGMACLTMTE MEATSTSPVH QNGDIPGSAN SVKQIEPVLQ VYLYHSLGQA EGEYLKFPSG EYVAEEICVA ASKACGITPV YHNMFALMSE TERIWYPPNH VFHIDESTRH DILYRIRFYF PHWYCSGSSR TYRYGVSRGA EAPLLDDFVM SYLFAQWRHD FVHGWIKVPV THETQEECLG MAVLDMMRIA KEKDQTPLAV YNSVSYKTFL PKCVRAKIQD YHILTRKRIR YRFRRFIQQF SQCKATARNL KLKYLINLET LQSAFYTEQF EVKESARGPS GEEIFATIII TGNGGIQWSR GKHKESETLT EQDVQLYCDF PDIIDVSIKQ ANQECSNESR IVTVHKQDGK VLEIELSSLK EALSFVSLID GYYRLTADAH HYLCKEVAPP AVLENIHSNC HGPISMDFAI SKLKKAGNQT GLYVLRCSPK DFNKYFLTFA VERENVIEYK HCLITKNENG EYNLSGTKRN FSNLKDLLNC YQMETVRSDS IIFQFTKCCP PKPKDKSNLL VFRTNGISDV QISPTLQRHN NVNQMVFHKI RNEDLIFNES LGQGTFTKIF KGVRREVGDY GQLHKTEVLL KVLDKAHRNY SESFFEAASM MSQLSHKHLV LNYGVCVCGE ENILVQEFVK FGSLDTYLKK NKNSINILWK LGVAKQLAWA MHFLEEKSLI HGNVCAKNIL LIREENRRTG NPPFIKLSDP GISITVLPKD ILQERIPWVP

PECIENPKNL NLATDKWSFG TTLWEICSGG DKPLSALDSQ RKLQFYEDKH QLPAPKWTEL ANLINNCMDY EPDFRPAFRA VIRDLNSLFT PDYELLTEND MLPNMRIGAL GFSGAFEDRD PTQFEERHLK FLQQLGKGNF GSVEMCRYDP LQDNTGEVVA VKKLQHSTEE HLRDFEREIE ILKSLQHDNI VKYKGVCYSA GRRNLRLIME YLPYGSLRDY LQKHKERIDH KKLLQYTSQI CKGMEYLGTK RYIHRDLATR NILVENENRV KIGDFGLTKV LPQDKEYYKV KEPGESPIFW YAPESLTESK FSVASDVWSF GVVLYELFTY IEKSKSPPVE FMRMIGNDKQ GQMIVFHLIE LLKSNGRLPR PEGCPDEIYV IMTECWNNNV SQRPSFRDLS LRVDQIIAA

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Jak2 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- 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 will ensure that you receive a correctly folded protein.

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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receival of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step

Product Details

	through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin free.
Grade:	Crystallography grade

Target Details

Target:	JAK2
Alternative Name:	Jak2 (JAK2 Products)
Background:	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. Following ligand-binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins. 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. In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation. Plays a role in cell cycle by phosphorylating CDKN1B. 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. {ECO:0000269|PubMed:11779507, ECO:0000269|PubMed:20098430, ECO:0000269|PubMed:21423214, ECO:0000269|PubMed:8343951, ECO:0000269|PubMed:8702638, ECO:0000269|PubMed:9473212,

Target Details

	ECO:0000269|PubMed:9590173, ECO:0000269|PubMed:9590174}.
Molecular Weight:	131.2 kDa Including tag.
UniProt:	Q62120
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 gurantee though.
Comment:	Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value 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:	Unlimited (if stored properly)

