

Datasheet for ABIN3135504

## JAK3 Protein (AA 1-1100) (Strep Tag)



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### Overview

Quantity:	250 µg
Target:	JAK3
Protein Characteristics:	AA 1-1100
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This JAK3 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

### Product Details

Brand:	AliCE®
Sequence:	<p>MAPPSEETPL IPQRSCSLSS SEAGALHVLL PPRGPGPPQR LSFSFGDYLA EDLCVRAAKA</p> <p>CGILPVYHSL FALATEDFSC WFPESHIFCI EDVDTQVLVY RLRFYFPDWF GLETCHRFGL</p> <p>RKDLTSAILD LHVLEHLFAQ HRSDLVSGRL PVGLSMKEQG EFLSLAVLDL AQMAREQAQR</p> <p>PGELLKTVSY KACLPPSLRD VIQQQNFVTR RRIRRTVVLA LRRVVACQAD RYALMAKYIL</p> <p>DLERLHPAAT TETFRVGLPG AQEEPGLLRV AGDNGISWSS GDQELFQTFE DFPEIVDVSI</p> <p>KQAPRVGPAG EHRLVTVTRM DGHILEAEFP GLPEALSFVA LVDGYFRIC DSRHYFCKEV</p> <p>APPRLLEEEA ELCHGPITLD FAIHKLKAAG SLPPTYILRR SPQDYDSFLL TACVQTPLGP</p> <p>DYKGCLIRQD PSGAFSLVGL SQPHRSLREL LAACWNSGLR VDGAALNLTS CCAPRPKEKS</p> <p>NLIVVRGCT PAPAPGCSPS CCALTQLSFH TIPTDSLEWH ENLGHSFTK IFRGRRREV</p> <p>DGETHDSEVL LKVMDSRHRN CMESFLEAAS LMSQVSYPHL VLLHGVCMAV DSIMVQEFVY</p> <p>LGAIMYLRK RGHLVSASWK LQVTKQLAYA LNYLEDKGLP HGNVSARKVL LAREGGDGNP</p>

PFIKLSDPGV SPTVLSLEML TDRIPWVAPE CLQEAQTLCL EADKWGFGAT TWEVFSGGPA  
HITSLEPAKK LKFYEDQGQL PALKWTELAG LITQCMAYDP GRRPSFRIL RDLNGLITSD  
YELLSDPTPG IPSRDELCO GAQLYACQDP AIFEERHLKY ISLLGKGNFG SVELCRYDPL  
GDNTGPLVAV KQLQHSGPDQ QRDFQREIQI LKALHSDFIV KYRGVSYGPG RQSLRLVMEY  
LPSGCLRDFL QRHRARLHTD RLLFFAWQIC KGMEYLGARR CVHRDLAARN ILVESEAHVK  
IADFGGLAKLL PLGKDYYVVR EPGQSPIFWY APESLSDNIF SRQSDVWSFG VVLYELFTYC  
DKSCSPSAEF LRMMGPREG PPLCRLELL AEGRRLP PPP TCPTVQELM QLCWAPSPHD  
RPAFGTLSPQ LDALWRGRPG

**Sequence without tag. The proposed Strep-Tag is based on experience s 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.**

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### Characteristics:

#### Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified in one-step affinity chromatography
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- 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.

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.

#### Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

#### Concentration:

## Product Details

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification: One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).

Purity: > 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Grade: custom-made

## Target Details

Target: JAK3

Alternative Name: Jak3 ([JAK3 Products](#))

Background: Tyrosine-protein kinase JAK3 (EC 2.7.10.2) (Janus kinase 3) (JAK-3),FUNCTION: Non-receptor tyrosine kinase involved in various processes such as cell growth, development, or differentiation. Mediates essential signaling events in both innate and adaptive immunity and plays a crucial role in hematopoiesis during T-cells development. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors sharing the common subunit gamma such as IL2R, IL4R, IL7R, IL9R, IL15R and IL21R. 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, upon IL2R activation by IL2, JAK1 and JAK3 Molecules bind to IL2R beta (IL2RB) and gamma chain (IL2RG) subunits inducing the tyrosine phosphorylation of both receptor subunits on their cytoplasmic domain. Then, STAT5A and STAT5B are recruited, phosphorylated and activated by JAK1 and JAK3. Once activated, dimerized STAT5 translocates to the nucleus and promotes the transcription of specific target genes in a cytokine-specific fashion. {ECO:0000269|PubMed:9016869}.

Molecular Weight: 122.6 kDa

UniProt: [Q62137](#)

Pathways: [JAK-STAT Signaling](#), [RTK Signaling](#), [Response to Growth Hormone Stimulus](#), [Regulation of Leukocyte Mediated Immunity](#), [Production of Molecular Mediator of Immune Response](#), [Protein targeting to Nucleus](#), [Activated T Cell Proliferation](#), [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.

**Comment:** ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.

During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

**Restrictions:** For Research Use only

## Handling

**Format:** Liquid

**Buffer:** The buffer composition is at the discretion of the manufacturer.  
Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**

**Handling Advice:** Avoid repeated freeze-thaw cycles.

**Storage:** -80 °C

**Storage Comment:** Store at -80°C.

**Expiry Date:** 12 months