Datasheet for ABIN3077563

STAT4 Protein (AA 1-748) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	STAT4
Protein Characteristics:	AA 1-748
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This STAT4 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MSQWNQVQQL EIKFLEQVDQ FYDDNFPMEI RHLLAQWIEN QDWEAASNNE TMATILLQNL LIQLDEQLGR VSKEKNLLLI HNLKRIRKVL QGKFHGNPMH VAVVISNCLR EERRILAAAN MPVQGPLEKS LQSSSVSERQ RNVEHKVAAI KNSVQMTEQD TKYLEDLQDE FDYRYKTIQT MDQSDKNSAM VNQEVLTLQE MLNSLDFKRK EALSKMTQII HETDLLMNTM LIEELQDWKR RQQIACIGGP LHNGLDQLQN CFTLLAESLF QLRRQLEKLE EQSTKMTYEG DPIPMQRTHM LERVTFLIYN LFKNSFVVER QPCMPTHPQR PLVLKTLIQF TVKLRLLIKL PELNYQVKVK ASIDKNVSTL SNRRFVLCGT NVKAMSIEES SNGSLSVEFR HLQPKEMKSS AGGKGNEGCH MVTEELHSIT FETQICLYGL TIDLETSSLP VVMISNVSQL PNAWASIIWY NVSTNDSQNL VFFNNPPPAT LSQLLEVMSW QFSSYVGRGL NSDQLHMLAE KLTVQSSYSD GHLTWAKFCK EHLPGKSFTF WTWLEAILDL IKKHILPLWI DGYVMGFVSK EKERLLLKDK MPGTFLLRFS ESHLGGITFT WVDHSESGEV RFHSVEPYNK GRLSALPFAD ILRDYKVIMA ENIPENPLKY LYPDIPKDKA FGKHYSSQPC EVSRPTERGD KGYVPSVFIP ISTIRSDSTE PHSPSDLLPM

SPSVYAVLRE NLSPTTIETA MKSPYSAE

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.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- 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 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.

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:

- 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.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification: Two step purification of proteins expressed in Almost Living Cell-Free Expression System

Product Details

	(ALiCE®): 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE. 2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

Target Details

Target:	STAT4
Alternative Name:	STAT4 (STAT4 Products)
Background:	Signal transducer and activator of transcription 4,FUNCTION: Transcriptional regulator mainly expressed in hematopoietic cells that plays a critical role in cellular growth, differentiation and immune response (PubMed:8943379, PubMed:10961885, PubMed:37256972). Plays a key role in the differentiation of T-helper 1 cells and the production of interferon-gamma (PubMed:12213961, PubMed:35614130). Participates also in multiple neutrophil functions including chemotaxis and production of the neutrophil extracellular traps (By similarity). After IL12 binding to its receptor IL12RB2, STAT4 interacts with the intracellular domain of IL12RB2 and becomes tyrosine phosphorylated (PubMed:7638186, PubMed:10415122). Phosphorylated STAT4 then homodimerizes and migrates to the nucleus where it can recognize STAT target sequences present in IL12 responsive genes. Although IL12 appears to be the predominant activating signal, STAT4 can also be phosphorylated and activated in response to IFN-gamma stimulation via JAK1 and TYK2 and in response to different interleukins including IL23, IL2 and IL35 (PubMed:11114383, PubMed:34508746). Transcription activation of IFN-gamma gene is mediated by interaction with JUN that forms a complex that efficiently interacts with the AP-1-related sequence of the IFN-gamma promoter (By similarity). In response to IFN-alpha/beta signaling, acts as a transcriptional repressor and suppresses IL5 and IL13 mRNA expression during response to T-cell receptor (TCR) activation (PubMed:26990433). {ECO:0000250|UniProtKB:P42228, ECO:0000269|PubMed:10415122, ECO:0000269|PubMed:10961885, ECO:0000269|PubMed:11114383, ECO:0000269|PubMed:12213961, ECO:0000269|PubMed:26990433, ECO:0000269|PubMed:34508746, ECO:0000269|PubMed:35614130, ECO:0000269|PubMed:37256972, ECO:0000269|PubMed:7638186,

Target Details

	ECO:0000269|PubMed:8943379}.
Molecular Weight:	85.9 kDa
UniProt:	Q14765
Pathways:	JAK-STAT Signaling

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. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)