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Datasheet for ABIN3093118
IPO7 Protein (AA 1-1038) (Strep Tag)

Overview

Quantity:	1 mg
Target:	IPO7
Protein Characteristics:	AA 1-1038
Origin:	Human
Source:	Tobacco (<i>Nicotiana tabacum</i>)
Protein Type:	Recombinant
Purification tag / Conjugate:	This IPO7 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MDPNTIIEAL RGTMDPALRE AAERQLNEAH KSLNFVSTLL QITMSEQLDL PVRQAGVIYL
 KNMITQYWPD RETAPGDISP YTIPEEDRHC IRENIVEAII HSP ELIRVQL TTCIHHIIKH
 DYPSRWTAIV DKIGFYLQSD NSACWLGILL CLYQLVKNYE YKKPEERSPL VAAMQHFLPV
 LKDRFIQLLS DQSDQSVLIQ KQIFKIFYAL VQYTLPLELI NQQNLTEWIE ILKTVVNRDV
 PNETLQVEED DRPELPWWKC KKWALHILAR LFERYGSPGN VSKEYNEFAE VFLKAFVGV
 QQVLLKVLVYQ YKEKQYMAPR VLQQT LNYIN QGVSHALTWK NLKPHIQGII QDVIFPLMCY
 TDADEELWQE DPYEYIRMKF DVFEDFISPT TAAQTLLFTA CSKRKEVLQK TMGFCYQILT
 EPNADPRKKD GALHMIGSLA EILLKKKIYK DQMEYMLQNH VFPLFSSELG YMRARACWVL
 HYFCEVKFKS DQNLQTALEL TRRCLIDDRE MPVKVEAAIA LQVLISNQEK AKEYITPFIR
 PVMQALLHII RETENDDL TN VIQKMICEYS EEVTPIAVEM TQHLAMTFNQ VIQTGPDEEG
 SDDKAVTAMG ILNTIDTLLS VVEDHKEITQ QLEGICLQVI GTVLQQHVLE FYEEIFSLAH
 SLTCQQVSPQ MWQLLPLVFE VFQQDGFDFY TDMMPLLHNY VTVD TDTLLS DTKYLEMIYS

MCKKVLGTGVA GEDAECHAAK LLEVIILQCK GRGIDQCIPL FVEAALERLT REVKTSELRT
MCLQVAIAAL YYNPHELLNT LENLRFNNV EPVTNHFITQ WLNDVDCFLG LHDRKMCVLG
LCALIDMEQI PQVLNQVSGQ ILPAFILLFN GLKRAYACHA EHENDSDDDD EAEDDDETEE
LGSDEDDIDE DGQEYLEILA KQAGEDGDDE DWEEDDAEET ALEGYSTIID DEDNPVDEYQ
IFKAIFQTIQ NRRNPVWYQAL THGLNEEQRK QLQDIATLAD QRRAAHESKM IEKHGGYKFS
APVVPSSFNF GGPAPGMN

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.

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- 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 (ALiCE®): <ol style="list-style-type: none">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:	IPO7
Alternative Name:	IPO7 (IPO7 Products)
Background:	Importin-7 (Imp7) (Ran-binding protein 7) (RanBP7),FUNCTION: Functions in nuclear protein import, either by acting as autonomous nuclear transport receptor or as an adapter-like protein in association with the importin-beta subunit KPNB1. Acting autonomously, is thought to serve itself as receptor for nuclear localization signals (NLS) and to promote translocation of import substrates through the nuclear pore complex (NPC) by an energy requiring, Ran-dependent mechanism. At the nucleoplasmic side of the NPC, Ran binds to importin, the importin/substrate complex dissociates and importin is re-exported from the nucleus to the cytoplasm where GTP hydrolysis releases Ran. The directionality of nuclear import is thought to be conferred by an asymmetric distribution of the GTP- and GDP-bound forms of Ran between the cytoplasm and nucleus. Mediates autonomously the nuclear import of ribosomal proteins RPL23A, RPS7 and RPL5 (PubMed:11682607). In association with KPNB1 mediates the nuclear import of H1 histone and the Ran-binding site of IPO7 is not required but synergizes with that of KPNB1 in importin/substrate complex dissociation. Promotes odontoblast differentiation via promoting nuclear translocation of DLX3, KLF4, SMAD2, thereby facilitating the transcription of target genes that play a role in odontoblast differentiation (By similarity). Facilitates BMP4-induced translocation of SMAD1 to the nucleus and recruitment to the MSX1 gene promoter, thereby promotes the expression of the odontogenic regulator MSX1 in dental mesenchymal

Target Details

cells (By similarity). Also promotes odontoblast differentiation by facilitating the nuclear translocation of HDAC6 and subsequent repression of RUNX2 expression (By similarity). Inhibits osteoblast differentiation by inhibiting nuclear translocation of RUNX2 and therefore inhibition of RUNX2 target gene transcription (By similarity). In vitro, mediates nuclear import of H2A, H2B, H3 and H4 histones. {ECO:0000250|UniProtKB:Q9EPL8, ECO:0000269|PubMed:10228156, ECO:0000269|PubMed:11682607, ECO:0000269|PubMed:9687515}., FUNCTION: (Microbial infection) Mediates the nuclear import of HIV-1 reverse transcription complex (RTC) integrase. Binds and mediates the nuclear import of HIV-1 Rev. {ECO:0000269|PubMed:12853482, ECO:0000269|PubMed:16704975}.

Molecular Weight: 119.5 kDa

UniProt: [O95373](#)

Pathways: [Protein targeting to Nucleus](#)

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

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)