Datasheet for ABIN3076375

ZNHIT1 Protein (AA 1-154) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	ZNHIT1
Protein Characteristics:	AA 1-154
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This ZNHIT1 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Sequence:	MVEKKTSVRS QDPGQRRVLD RAARQRRINR QLEALENDNF QDDPHAGLPQ LGKRLPQFDD DADTGKKKKK TRGDHFKLRF RKNFQALLEE QNLSVAEGPN YLTACAGPPS RPQRPFCAVC GFPSPYTCVS CGARYCTVRC LGTHQETRCL KWTV **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 (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)
Grade:	Crystallography grade

Target Details

Target:	ZNHIT1
Alternative Name:	ZNHIT1 (ZNHIT1 Products)
Background:	Zinc finger HIT domain-containing protein 1 (Cyclin-G1-binding protein 1) (Zinc finger protein subfamily 4A member 1) (p18 Hamlet),FUNCTION: Plays a role in chromatin remodeling by promoting the incorporation of histone variant H2AZ1/H2A.Z into the genome to regulate gene expression (PubMed:20473270, PubMed:35175558). Promotes SRCAP complex-mediated deposition of histone variant H2AZ1 to lymphoid fate regulator genes, enhancing lymphoid lineage commitment (By similarity). Recruited to the promoter of the transcriptional activator MYOG at the early stages of muscle differentiation where it mediates binding of histone H2AZ1 to chromatin and induces muscle-specific gene expression (PubMed:20473270). Maintains hematopoietic stem cell (HSC) quiescence by determining the chromatin accessibility at distal enhancers of HSC quiescence genes such as PTEN, FSTL1 and KLF4, enhancing deposition of H2AZ1 to promote their sustained transcription and restricting PI3K-AKT signaling inhibition (By similarity). Plays a role in intestinal stem cell maintenance by promoting H2AZ1 deposition at the transcription start sites of genes involved in intestinal stem cell fate determination including LGR5, TGFB1 and TGFBR2, thereby contributing to gene transcription (By similarity). Promotes phosphorylation of the H2AZ1 chaperone VPS72/YL1 which enhances the interaction between HZAZ1 and VPS72 (By similarity). Regulates the entry of male germ cells into meiosis by controlling histone H2AZ1 deposition which facilitates the expression of meiotic genes such as MEIOSIN, leading to the initiation of meiosis (By similarity). Required for postnatal heart function through its role in maintenance of cardiac Ca(2+) homeostasis by modulating the expression of Ca(2+)-regulating proteins CASQ1 and ATP2A2/SERCA2A via deposition of histone H2AZ1 at their promoters (By similarity). During embryonic heart development, required for mitochondrial maturation and oxidative metabolism by functioning through H2AZ1 deposition to activate transcription of metabolic genes and is also required to maintain the stability of the respiratory complex (By similarity). In neural cells, increases deposition of the H2AZ1 histone variant and promotes neurite growth (PubMed:35175558). Plays a role in TP53/p53-mediated apoptosis induction by stimulating the transcriptional activation of several proapoptotic p53 target genes such as PMAIP1/NOXA and BBC3/PUMA (PubMed:17380123). Mediates cell cycle arrest induced in response to gamma-irradiation by enhancing recruitment of TP53/p53 to the promoter of the cell cycle inhibitor CDKN1A, leading to its transcriptional activation (PubMed:17700068). Recruited to the promoter of cyclin-dependent kinase CDK6 and inhibits its transcription, possibly by decreasing the acetylation level of histone H4, leading to cell cycle arrest at the G1 phase (By similarity). Plays a role in lens fiber cell differentiation by regulating the expression of cell cycle regulator CDKN1A/p21Cip1 (By similarity). Binds to

Target Details

	transcriptional repressor NR1D2 and relieves it of its inhibitory effect on the transcription of apolipoprotein APOC3 without affecting its DNA-binding activity (PubMed:17892483). {ECO:0000250|UniProtKB:Q8R331, ECO:0000269|PubMed:17380123, ECO:0000269|PubMed:17700068, ECO:0000269|PubMed:17892483, ECO:0000269|PubMed:20473270, ECO:0000269|PubMed:35175558}.
Molecular Weight:	17.5 kDa
UniProt:	O43257

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)

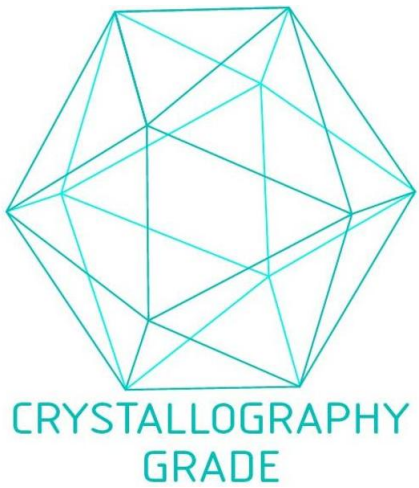

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process

