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Datasheet for ABIN3083630
MBTD1 Protein (AA 1-628) (Strep Tag)

Overview

Quantity:	1 mg
Target:	MBTD1
Protein Characteristics:	AA 1-628
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This MBTD1 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Sequence: MFDGYDSCSE DTSSSSSSEE SEEEVAPLPS NLPIIKNNGQ VYTYPDGKSG MATCEMCGMV
 GVRDAFYSKT KRFCVSCSR SYSSNSKKAS ILARLQGKPP TTKAKVLQKQ PLVAKLAAYA
 QYQATLQNQA KTKAAVSMEG FSWGNYINSN SFIAAPVTCT KHAPMGTCWG DISENVRVEV
 PNTDCSLPTK VFWIAGIVKL AGYNALLRYE GFENDSGLDF WCNICGSDIH PVGWCAASGK
 PLVPPRTIQH KYTNWKAFLV KRLTGAKTLP PDFSQKVSSES MQYPFKPCMR VEVVDKRHLC
 RTRVAVVESV IGGRLRLVYE ESEDRTDDFW CHMHSPLIHH IGWSRSIGHR FKRSITKKQ
 DGHFDTPPHL FAKVKEVDQS GEWFKEGMKL EADPLNLST ICVATIRKVL ADGFLMIGID
 GSEAADGSDW FCYHATSPSI FPGVFCEINM IELTPPRGYT KLPFKWFDYL RETGSIAAPV
 KLFNKDVPNH GFRVGMKLEA VDLMEPRLIC VATVTRIIHR LLRIHFDGWE EYDQWVDCE
 SPDLYPVGWC QLTGYQLQPP ASQSSRENQS ASSKQKKKAK SQQYKGHKM TTLQLKEELL
 DGEDYNFLQG ASDQESNGSA NFYIKQEP

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
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Product Details

- 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: MBTD1

Alternative Name: MBTD1 ([MBTD1 Products](#))

Background: MBT domain-containing protein 1,FUNCTION: Chromatin reader component of the NuA4 histone acetyltransferase complex, a multiprotein complex involved in transcriptional activation of select genes principally by acetylation of nucleosomal histones H4 and H2A (PubMed:27153538, PubMed:32209463). The NuA4 complex plays a direct role in repair of DNA double-strand breaks (DSBs) by promoting homologous recombination (HR) (PubMed:27153538). MBTD1 specifically recognizes and binds monomethylated and dimethylated 'Lys-20' on histone H4 (H4K20me1 and H4K20me2, respectively) (PubMed:19841675, PubMed:27153538, PubMed:32209463). In the NuA4 complex, MBTD1 promotes recruitment of the complex to H4K20me marks by competing with TP53BP1 for binding to H4K20me (PubMed:27153538). Following recruitment to H4K20me at DNA breaks, the NuA4 complex catalyzes acetylation of 'Lys-15' on histone H2A (H2AK15), blocking the ubiquitination mark required for TP53BP1 localization at DNA breaks, thereby promoting homologous recombination (HR) (PubMed:27153538). {ECO:0000269|PubMed:19841675, ECO:0000269|PubMed:27153538, ECO:0000269|PubMed:32209463}.

Molecular Weight: 70.5 kDa

UniProt: [Q05BQ5](#)

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

Application Details

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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)