Datasheet for ABIN3130033

NUDT3 Protein (AA 1-168) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	NUDT3
Protein Characteristics:	AA 1-168
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NUDT3 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MMKLKSNQTR TYDGDGYKKR AACLCFRSES EEEVLLVSSS RHPDRWIVPG GGMEPEEEPS VAAVREVCEE AGVKGTLGRL VGIFENQERK HRTYVYVLIV TEVLEDWEDS VNIGRKREWF KIEDAIKVLQ CHKPVQASYF ETLRQGYPAN NGTPVVPTTY SSSVSGIR **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)

Target Details

Target:	NUDT3
Alternative Name:	Nudt3 (NUDT3 Products)
Background:	Diphosphoinositol polyphosphate phosphohydrolase 1 (DIPP-1) (muDIPP1) (EC 3.6.1.52) (Diadenosine hexaphosphate hydrolase) (Ap6A hydrolase) (EC 3.6.1.61) (Endopolyphosphatase) (EC 3.6.1.10) (Nucleoside diphosphate-linked moiety X motif 3) (Nudix motif 3) (m7GpppN-mRNA hydrolase) (EC 3.6.1.62) (m7GpppX diphosphatase) (EC 3.6.1.59),FUNCTION: Cleaves a beta-phosphate from the diphosphate groups in PP-InsP5 (diphosphoinositol pentakisphosphate) and [PP]2-InsP4 (bisdiphosphoinositol tetrakisphosphate), suggesting that it may play a role in signal transduction (PubMed:15212765). InsP6 (inositol hexakisphosphate) is not a substrate (By similarity). Also able to catalyze the hydrolysis of dinucleoside oligophosphates, with diadenosine 5',5'''-P1,P6-hexaphosphate (Ap6A) and diadenosine 5',5'''- P1,P5-pentaphosphate (Ap5A) being the preferred substrates (By similarity). The major reaction products are ADP and p4a from Ap6A and ADP and ATP from Ap5A (By similarity). Also able to hydrolyze 5- phosphoribose 1-diphosphate (By similarity). Acts as a negative regulator of the ERK1/2 pathway (PubMed:15212765). Acts as a decapping enzyme that can hydrolyze both monomethylated and unmethylated capped RNAs (PubMed:23353937). Hydrolyzes monomethylated capped RNA after both the alpha- and beta-phosphates generating m7GMP + ppRNA and m7GDP + pRNA (PubMed:23353937). Modulates the stability of a subset of mRNAs implicated in cell motility (By similarity). Divalent cations zinc, magnesium and manganese determine its substrate specificity (By similarity). Exhibits diphosphoinositol polyphosphate phosphohydrolase in the presence of magnesium ions, diadenosine hexaphosphate hydrolase activity in the presence of manganese ions and endopolyphosphatase activity in the presence of zinc ions (By similarity). Plays an important role in limiting DNA damage and maintaining cell survival upon oxidative stress via its endopolyphosphatase activity (By similarity). {ECO:0000250|UniProtKB:O95989, ECO:0000269|PubMed:15212765, ECO:0000269|PubMed:23353937}.
Molecular Weight:	19.0 kDa
UniProt:	Q9JI46

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.

Application Details

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)