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AGO2 Protein (AA 1-860) (Strep Tag)



Overview

Quantity:	1 mg
Target:	AG02
Protein Characteristics:	AA 1-860
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This AGO2 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB)

Product Details

Sequence:

MYSGAGPVLA SPAPTTSPIP GYAFKPPPRP DFGTTGRTIK LQANFFEMDI PKIDIYHYEL
DIKPEKCPRR VNREIVEHMV QHFKTQIFGD RKPVFDGRKN LYTAMPLPIG RDKVELEVTL
PGEGKDRIFK VSIKWVSCVS LQALHDALSG RLPSVPFETI QALDVVMRHL PSMRYTPVGR
SFFTASEGCS NPLGGGREVW FGFHQSVRPS LWKMMLNIDV SATAFYKAQP VIEFVCEVLD
FKSIEEQQKP LTDSQRVKFT KEIKGLKVEI THCGQMKRKY RVCNVTRRPA SHQTFPLQQE
SGQTVECTVA QYFKDRHKLV LRYPHLPCLQ VGQEQKHTYL PLEVCNIVAG QRCIKKLTDN
QTSTMIRATA RSAPDRQEEI SKLMRSASFN TDPYVREFGI MVKDEMTDVT GRVLQPPSIL
YGGRNKAIAT PVQGVWDMRN KQFHTGIEIK VWAIACFAPQ RQCTEVHLKS FTEQLRKISR
DAGMPIQGQP CFCKYAQGAD SVEPMFRHLK NTYAGLQLVV VILPGKTPVY AEVKRVGDTV
LGMATQCVQM KNVQRTTPQT LSNLCLKINV KLGGVNNILL PQGRPPVFQQ PVIFLGADVT
HPPAGDGKKP SIAAVVGSMD AHPNRYCATV RVQQHRQEII QDLAAMVREL LIQFYKSTRF
KPTRIIFYRD GVSEGQFQQV LHHELLAIRE ACIKLEKDYQ PGITFIVVQK RHHTRLFCTD

KNERVGKSGN IPAGTTVDTK ITHPTEFDFY LCSHAGIQGT SRPSHYHVLW DDNRFSSDEL QILTYQLCHT YVRCTRSVSI PAPAYYAHLV AFRARYHLVD KEHDSAEGSH TSGQSNGRDH QALAKAVQVH QDTLRTMYFA

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 posttranslational 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.

Product Details

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.
- 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:

AGO2

Alternative Name:

Ago2 (AGO2 Products)

Background:

Protein argonaute-2 (Argonaute2) (mAgo2) (EC 3.1.26.n2) (Argonaute RISC catalytic component 2) (Eukaryotic translation initiation factor 2C 2) (eIF-2C 2) (eIF2C 2) (Piwi/argonaute family protein melF2C2) (Protein slicer), FUNCTION: Required for RNA-mediated gene silencing (RNAi) by the RNA-induced silencing complex (RISC). The 'minimal RISC' appears to include AGO2 bound to a short guide RNA such as a microRNA (miRNA) or short interfering RNA (siRNA). These guide RNAs direct RISC to complementary mRNAs that are targets for RISCmediated gene silencing. The precise mechanism of gene silencing depends on the degree of complementarity between the miRNA or siRNA and its target. Binding of RISC to a perfectly complementary mRNA generally results in silencing due to endonucleolytic cleavage of the mRNA specifically by AGO2. Binding of RISC to a partially complementary mRNA results in silencing through inhibition of translation, and this is independent of endonuclease activity. May inhibit translation initiation by binding to the 7-methylguanosine cap, thereby preventing the recruitment of the translation initiation factor eIF4-E. May also inhibit translation initiation via interaction with EIF6, which itself binds to the 60S ribosomal subunit and prevents its association with the 40S ribosomal subunit. The inhibition of translational initiation leads to the accumulation of the affected mRNA in cytoplasmic processing bodies (P-bodies), where mRNA degradation may subsequently occur. In some cases RISC-mediated translational repression is also observed for miRNAs that perfectly match the 3' untranslated region (3'-UTR). Can also upregulate the translation of specific mRNAs under certain growth conditions. Binds to the AU element of the 3'-UTR of the TNF (TNF-alpha) mRNA and up-regulates translation under conditions of serum starvation. Also required for transcriptional gene silencing (TGS), in which

rarget Details	
Molecular Weight: UniProt:	short RNAs known as antigene RNAs or agRNAs direct the transcriptional repression of complementary promoter regions. Regulates lymphoid and erythroid development and function, and this is independent of endonuclease activity. {ECO:0000255 HAMAP-Rule:MF_03031, ECO:0000269 PubMed:15284456, ECO:0000269 PubMed:17626790, ECO:0000269 PubMed:19174539}. 97.3 kDa Q8CJG0
Pathways:	Fc-epsilon Receptor Signaling Pathway, Regulatory RNA Pathways, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Ribonucleoprotein Complex Subunit Organization
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

Handling

Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)