Datasheet for ABIN3136459

PIWIL4 Protein (AA 1-848) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	PIWIL4
Protein Characteristics:	AA 1-848
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PIWIL4 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Brand:	AliCE®
Sequence:	MSGRARVRAR GITTGHSARE VGRSSRDLMV TSASPGDSEA GGGTSVISQP YELGVSSGDG GRTFMERRGK GRQDFEELGV CTREKLTHVK DCKTGSSGIP VRLVTNLFNL DLPQDWQLYQ YHVTYSPDLA SRRLRIALLY NHSILSDKAK AFDGASLFLS EKLDQKVTEL TSETQRGETI KITLTLTSKL FPNSPVCIQF FNVIFRKILK NLSMYQIGRN FYKPSEPVEI PQYKLSLWPG FAISVSHFES KLLFNADVNY KVLRNETVLD FMTDLCLRTG MSCFTEMCHK QLVGLVVLTR YNNKTYRIDD IDWSVKPTQA FQKRDGSEVT YVDYYKQQYD ITLSDLNQPV LVSLLKRKRN DNSEPQMVHL MPELCFLTGL SSQATSDFRL MKAVAEETRL SPVGRQQQLA RLVDDIQRNP VARFELETWG LHFGSQLSLT GRVVPSEKIL LQDHTCQPAF AADWSKDMRS CKVLSSQPLN RWLIVCCNRA EHLIEAFLSC LRRVGGSMGF NVGYPKIIKV DETPAAFLRA IQVHGDPDVQ LVMCILPSNQ KNYYDSIKKY LSSDCPVPSQ CVLTRTLNKQ GTMLSVATKI AMQMTCKLGG ELWSVEIPLK SLMVVGIDIC RDALNKNVVV VGFVASINSR ITRWFSRCVL QRTAADIADC

LKVCMTGALN RWYRHNHDLP ARIVVYRDGV GNGQLKAVLE YEVPQLLKSV TECGSDARSC RLSVVVVRKR CLLRLFASTD HTVQNPPLGT VVDSEATRPE WYDFYLISQT ANRGTVSPTH YNVIYDDNAL KPDHMQRLTF KLCHLYYNWQ GLISVPAPCQ YAHKLTFLVA QSVHKEPSLE LANNLFYL

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 in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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 against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Product Details

Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
Grade:	custom-made

Target Details

Target:	PIWIL4
Alternative Name:	Piwil4 (PIWIL4 Products)
Background:	Piwi-like protein 4 (mAgo5),FUNCTION: Plays a central role during spermatogenesis by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity (PubMed:17395546, PubMed:18381894, PubMed:18922463, PubMed:26669262, PubMed:22020280). Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and governs the methylation and subsequent repression of transposons (PubMed:17395546, PubMed:18381894, PubMed:18922463, PubMed:26669262, PubMed:22020280). Directly binds piRNAs, a class of 24 to 30 nucleotide RNAs that are generated by a Dicer-independent mechanism and are primarily derived from transposons and other repeated sequence elements. Associates with secondary piRNAs antisense and PIWIL2/MILI is required for such association (PubMed:17395546, PubMed:18381894, PubMed:18922463, PubMed:26669262, PubMed:22020280). The piRNA process acts upstream of known mediators of DNA methylation (PubMed:17395546, PubMed:18381894, PubMed:18922463, PubMed:26669262, PubMed:22020280). Does not show endonuclease activity (PubMed:22020280). Plays a key role in the piRNA amplification loop, also named ping-pong amplification cycle, by acting as a 'slicer-incompetent' component that loads cleaved piRNAs from the 'slicer-competent' component PIWIL2 and target them on genomic transposon loci in the nucleus (PubMed:22020280). In addition to its role in germline, PIWIL4 also plays a role in the regulation of somatic cells activities. Plays a role in pancreatic beta cell function and insulin secretion (By similarity). Involved in maintaining cell morphology and functional integrity of retinal epithelial through Akt/GSK3alpha/beta signaling pathway (By similarity). {ECO:0000250|UniProtKB:Q4G033, ECO:0000250|UniProtKB:Q7Z3Z4, ECO:0000269|PubMed:17395546, ECO:0000269|PubMed:18381894, ECO:0000269|PubMed:18922463, ECO:0000269|PubMed:22020280, ECO:0000269|PubMed:26669262}.

Target Details

Molecular Weight:	95.8 kDa
UniProt:	Q8CGT6

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. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months