Datasheet for ABIN3136416

PIWIL2 Protein (AA 1-971) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	PIWIL2
Protein Characteristics:	AA 1-971
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PIWIL2 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Brand:	AliCE®
Sequence:	MDPVRPLFRG PTPVHPSQCV RMPGCWPQAP RPLEPAWGRA GPAGRGLVFR KPEDSSPPLQ PVQKDSVGLV SMFRGMGLDT AFRPPSKREV PPLGRGVLGR GLSANMVRKD REEPRSSLPD PSVLAAGDSK LAEASVGWSR MLGRGSSEVS LLPLGRAASS IGRGMDKPPS AFGLTARDPP RLPQPPALSP TSLHSADPPP VLTMERKEKE LLVKQGSKGT PQSLGLNLIK IQCHNEAVYQ YHVTFSPSVE CKSMRFGMLK DHQSVTGNVT AFDGSILYLP VKLQQVVELK SQRKTDDAEI SIKIQLTKIL EPCSDLCIPF YNVVFRRVMK LLDMKLVGRN FYDPTSAMVL QQHRLQIWPG YAASIRRTDG GLFLLADVSH KVIRNDSVLD VMHAIYQQNK EHFQDECSKL LVGSIVITRY NNRTYRIDDV DWNKTPKDSF VMSDGKEITF LEYYSKNYGI TVKEDDQPLL IHRPSERQNN HGMLLKGEIL LLPELSFMTG IPEKMKKDFR AMKDLTQQIN LSPKQHHGAL ECLLQRISQN ETASNELTRW GLSLHKDVHK IEGRLLPMER INLRNTSFVT SEDLNWVKEV TRDASILTIP MHFWALFYPK RAMDQARELV NMLEKIAGPI GMRISPPAWV ELKDDRIETY IRTIQSLLGV

EGKIQMVVCI IMGTRDDLYG AIKKLCCVQS PVPSQVINVR TIGQPTRLRS VAQKILLQMN CKLGGELWGV DIPLKQLMVI GMDVYHDPSR GMRSVVGFVA SINLTLTKWY SRVVFQMPHQ EIVDSLKLCL VGSLKKYYEV NHCLPEKIVV YRDGVSDGQL KTVANYEIPQ LQKCFEAFDN YHPKMVVFVV QKKISTNLYL AAPDHFVTPS PGTVVDHTIT SCEWVDFYLL AHHVRQGCGI PTHYICVLNT ANLSPDHMQR LTFKLCHMYW NWPGTIRVPA PCKYAHKLAF LSGQILHHEP AIQLCGNLFF L

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.

Product Details

- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

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:	PIWIL2
Alternative Name:	Piwil2 (PIWIL2 Products)
Background:	Piwi-like protein 2 (EC 3.1.26.-),FUNCTION: Endoribonuclease that plays a central role during spermatogenesis by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity (PubMed:11578866, PubMed:14736746, PubMed:17446352, PubMed:18381894, PubMed:18922463, PubMed:26669262). Plays an essential role in meiotic differentiation of spermatocytes, germ cell differentiation and in self-renewal of spermatogonial stem cells (PubMed:11578866, PubMed:14736746, PubMed:17446352, PubMed:18381894, PubMed:18922463, PubMed:26669262). Its presence in oocytes suggests that it may participate in similar functions during oogenesis in females (PubMed:11578866, PubMed:14736746, PubMed:17446352, PubMed:18381894, PubMed:18922463, PubMed:26669262). 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 govern the methylation and subsequent repression of transposons (PubMed:11578866, PubMed:14736746, PubMed:17446352, PubMed:18381894, PubMed:18922463, PubMed:26669262). During piRNA biosynthesis, plays a key role in the piRNA amplification loop, also named ping-pong amplification cycle, by acting as a 'slicer-competent' piRNA endoribonuclease that cleaves primary piRNAs, which are then loaded onto 'slicer-incompetent' PIWIL4 (PubMed:22020280, PubMed:23706823, PubMed:26669262). PIWIL2 slicing produces a pre-miRNA intermediate, which is then processed in mature piRNAs, and as well as a 16 nucleotide by-product that is degraded (PubMed:28633017). Required for PIWIL4/MIWI2 nuclear localization and association with secondary piRNAs antisense (PubMed:18381894, PubMed:18922463, PubMed:26669262). Besides their function in transposable elements repression, piRNAs are probably involved in other processes during meiosis such as translation regulation (PubMed:19114715). Indirectly modulates expression of

Target Details

	genes such as PDGFRB, SLC2A1, ITGA6, GJA7, THY1, CD9 and STRA8 (PubMed:16261612). Represses circadian rhythms by promoting the stability and activity of core clock components BMAL1 and CLOCK by inhibiting GSK3B-mediated phosphorylation and ubiquitination-dependent degradation of these proteins (PubMed:28903391). {ECO:0000269|PubMed:11578866, ECO:0000269|PubMed:14736746, ECO:0000269|PubMed:16261612, ECO:0000269|PubMed:17446352, ECO:0000269|PubMed:18381894, ECO:0000269|PubMed:18922463, ECO:0000269|PubMed:19114715, ECO:0000269|PubMed:22020280, ECO:0000269|PubMed:23706823, ECO:0000269|PubMed:26669262, ECO:0000269|PubMed:28633017, ECO:0000269|PubMed:28903391}.
Molecular Weight:	109.5 kDa
UniProt:	Q8CDG1
Pathways:	Stem Cell Maintenance

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.

Handling

	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