

Datasheet for ABIN3094781
PRDM9 Protein (AA 1-894) (Strep Tag)



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Overview

Quantity:	1 mg
Target:	PRDM9
Protein Characteristics:	AA 1-894
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PRDM9 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MSPEKSQEESEEDTERTERKPMVKDAFKDISIYFTKEEWAEEMGDWEKTRYRNVKRNYNALITIGLRATRAPAFMCHRRQA IKLQVDDTEDSDEEWTPRQQVKPPWMALRV EQRKHQKGMPKASFSNESSL KELSRTANLL NASGSEQAQK PVSPSGEAST SGQHSRLKLE LRKKETERKMYSLRERKGHA YKEVSEPDQDDYLYCEMCQN FFIDSCAAHG PPTFVKDSAV DKGHPNRSALSLPPGLRIGP SGIPQAGLGV WNEASDLPLG LHFGPYEGRI TEDEEAANNG YSWLITKGRNCYEYVDGKDK SWANWMRYVN CARDDEEQNL VAFQYHRQIF YRTCVRIRPG CELLVWYGDEYGQELGIKWG SKWKKELMAG REPKEIHPC PSCCLAFSSQ KFLSQHVERN HSSQNFPGPSARKLLQPENP CPGDQNQEQQ YPDPHSRNDK TKGQEIKERS KLLNKRTWQR EISRAFSSPPKGQMGSCRVG KRIMEEESRT GQKVNPGNTG KLFVGVGISR IAKVKYGECC QGFSVKSDVITHQRTHTGEK LYVCRECGRG FSWKSHLLIH QRIHTGEKPY VCRECGRGFS WQSVLLTHQRTHTGEKPYVCRECGRGFSRQ SVLLTHQRRH TGEKPYVCRECGRGFSRQSV LLTHQRRHTGEKPYVCRECG RGFSWQSVLL THQRTHTGEK PYVCRECGRG FSWQSVLLTH QRTHTGEKPY
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VCRECGRGFS NKSHLLRHQR THTGEKPYVC RECGRGFRDK SHLLRHQRTH TGEKPYVCRE
CGRGFRDKSN LLSHQRTHTG EKPVVCRECG RGFSNKSHELL RHQRTHTEK PYVVCRECGRG
FRNKSHELLR QRTHTGEKPY VCRECGRGFS DRSSLCYHQR THTGEKPYVC REDE

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.

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. 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)
Grade:	Crystallography grade

Target Details

Target:	PRDM9
Alternative Name:	PRDM9 (PRDM9 Products)
Background:	<p>Histone-lysine N-methyltransferase PRDM9 (PR domain zinc finger protein 9) (PR domain-containing protein 9) (Protein-lysine N-methyltransferase PRDM9) (EC 2.1.1.-) ([histone H3]-lysine36 N-trimethyltransferase PRDM9) (EC 2.1.1.359) ([histone H3]-lysine4 N-trimethyltransferase PRDM9) (EC 2.1.1.354) ([histone H3]-lysine9 N-trimethyltransferase PRDM9) (EC 2.1.1.355) ([histone H4]-N-methyl-L-lysine20 N-methyltransferase PRDM9) (EC 2.1.1.362) ([histone H4]-lysine20 N-methyltransferase PRDM9) (EC 2.1.1.361),FUNCTION: Histone methyltransferase that sequentially mono-, di-, and tri-methylates both 'Lys-4' (H3K4) and 'Lys-36' (H3K36) of histone H3 to produce respectively trimethylated 'Lys-4' (H3K4me3) and trimethylated 'Lys-36' (H3K36me3) histone H3 and plays a key role in meiotic prophase by determining hotspot localization thereby promoting meiotic recombination (PubMed:24634223, PubMed:24095733, PubMed:26833727, PubMed:27129774). Can also methylate all four core histones with H3 being the best substrate and the most highly modified (PubMed:24095733, PubMed:24634223, PubMed:26833727). Is also able, on one hand, to mono and di-methylate H4K20 and on other hand to trimethylate H3K9 with the di-methylated H3K9 as the best substrate (By similarity). During meiotic prophase, binds specific DNA sequences through its zinc finger domains thereby determining hotspot localization where it promotes local H3K4me3 and H3K36me3 enrichment on the same nucleosomes through its histone methyltransferase activity (PubMed:26833727). Thereby promotes double-stranded breaks (DSB) formation, at this subset of PRDM9-binding sites, that initiates meiotic recombination for the proper meiotic progression (By similarity). During meiotic progression hotspot-bound PRDM9 interacts with</p>

Target Details

several complexes, in early leptotema binds CDYL and EHMT2 followed by EWSR1 and CXXC1 by the end of leptotema. EWSR1 joins PRDM9 with the chromosomal axis through REC8 (By similarity). In this way, controls the DSB repair pathway, pairing of homologous chromosomes and sex body formation (By similarity). Moreover plays a central role in the transcriptional activation of genes during early meiotic prophase thanks to H3K4me3 and H3K36me3 enrichment that represents a specific tag for epigenetic transcriptional activation (By similarity). In addition performs automethylation (By similarity). Acetylation and phosphorylation of histone H3 attenuate or prevent histone H3 methylation (By similarity).
{ECO:0000250|UniProtKB:Q96EQ9, ECO:0000269|PubMed:24095733, ECO:0000269|PubMed:24634223, ECO:0000269|PubMed:26833727}.

Molecular Weight: 103.4 kDa

UniProt: [Q9NQV7](#)

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

Handling Advice:	Avoid repeated freeze-thaw cycles.
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Storage:	-80 °C
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Storage Comment:	Store at -80°C.
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Expiry Date:	Unlimited (if stored properly)
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Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process