

Datasheet for ABIN7564873

PRDM9 Protein (AA 1-843) (His tag)



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Overview

Quantity:	1 mg
Target:	PRDM9
Protein Characteristics:	AA 1-843
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This PRDM9 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat Prdm9 Protein expressed in mammalian cells.
Sequence:	<p>MNTNKL EENS PEEDTGKFEW KPKVKDEFKD ISYFSKEEW AEMGEWEKIR YRNVKRNYKM</p> <p>LISIGLRAPR PAFMCYQRQA MKPQINDSED SDEEWTPKQQ VSPPWVPFRV KHSKQQKESS</p> <p>RMPFSGESNV KEGSGIENLL NTSGSEHVQK PVSSLEEGNT SGQHSGKKLK LRKKNVEVKM</p> <p>YRLRERKGLA YEEVSEPQDD DYLYCEKQCN FFIDSCPNHG PPLFVKDSMV DRGHPNHSVL</p> <p>SLPPGLRISP SGIPEAGLGV WNEASDLPVG LHFGPYEGQI TEDEEAANS YSWLITKGRN</p> <p>CYEVVDGQDE SQANWMRYVN CARDDEEQNL VAFQYHRKIF YRTRVIRPG CELLVWYGDE</p> <p>YGQELGIKWG SKMKKGFTAG RELRTEIHPC LLCSLAFSSQ KFLTQHMEWN HRTEIFPGTS</p> <p>ARINPKPGDP CSDQLQEQHV DSQNKNDKAS NEVKRKS KPR QRISTTFPST LKEQMRSEES</p> <p>KRTVEELRTG QTTNTEDTVK SFIASEISSI ERQCGQYFSD KSNVNEHQKT HTGEKPYVCR</p> <p>ECGRGFTQNS HLIQHQRTHT GEKPYVCREC GRGFTQKSDL IKHQRTHTGE KPYVCRECGR</p> <p>GFTQKSDLIK HQRTHTGEKP YVCRECGRGF TQKSVLIKHQ RTHTGEKPYV CRECGRGFTQ</p>

KSVLIKHQRT HTGEKPYVCR ECGRGFTAKS VLIQHQRTHT GEKPYVCREC GRGFTAKSNL
IQHQRTHTGE KPYVCRECGR GFTAKSVLIQ HQRTHTGEKP YVCRECGRGF TAKSVLIQHQ
RTHTGEKPYV CRECGRGFTQ KSNLIKHQRT HTGEKPYVCR ECGWGFTQKS DLIQHQRTHT REK

Sequence without tag. The proposed Purification-Tag is based on experiences 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:	<p>Key Benefits:</p> <ul style="list-style-type: none">• Made to order protein - from design to production - by highly experienced protein experts.• Protein expressed in mammalian cells and purified in one-step affinity chromatography• The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.• State-of-the-art algorithm used for plasmid design (Gene synthesis). <p>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.</p> <p>If you are not interested in a full length protein, please contact us for individual protein fragments.</p> <p>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.</p>
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Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
Grade:	custom-made

Target Details

Target:	PRDM9
Alternative Name:	Prdm9 (PRDM9 Products)
Background:	Histone-lysine N-methyltransferase PRDM9 (Hybrid sterility protein 1) (Meiosis-induced factor containing a PR/SET domain and zinc-finger motif) (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:

Target Details

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:16292313, PubMed:24095733, PubMed:27362481, PubMed:24785241, PubMed:29478809). Can also methylate all four core histones with H3 being the best substrate and the most highly modified (PubMed:24785241, PubMed:27362481). 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 (PubMed:24785241, PubMed:27362481). 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:22028627, PubMed:27362481, PubMed:29478809). Thereby promotes double-stranded breaks (DSB) formation, at this subset of PRDM9-binding sites, that initiates meiotic recombination for the proper meiotic progression (PubMed:16292313, PubMed:29478809). During meiotic progression hotspot-bound PRDM9 interacts with several complexes, in early leptotema binds CDYL and EHMT2 followed by EWSR1 and CXXC1 by the end of leptotema (PubMed:27932493). EWSR1 joins PRDM9 with the chromosomal axis through REC8 (PubMed:27932493). In this way, controls the DSB repair pathway, pairing of homologous chromosomes and sex body formation (PubMed:25894966, PubMed:16292313). 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 (PubMed:16292313). In addition performs automethylation (PubMed:28126738). Acetylation and phosphorylation of histone H3 attenuate or prevent histone H3 methylation (PubMed:27362481). {ECO:0000269|PubMed:16292313, ECO:0000269|PubMed:22028627, ECO:0000269|PubMed:24095733, ECO:0000269|PubMed:24785241, ECO:0000269|PubMed:25894966, ECO:0000269|PubMed:27362481, ECO:0000269|PubMed:27932493, ECO:0000269|PubMed:28126738, ECO:0000269|PubMed:29478809, ECO:0000269|PubMed:32374261}.

Molecular Weight: 97.4 kDa

UniProt: [Q96EQ9](#)

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

Application Details

	guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months