

JHDM1D-I recombinant protein

Recombinant JHDM1D-I protein

CATALOG #
AAA59698

HOST
E Coli

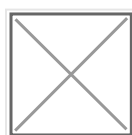
PRODUCT SYNONYMS

JHDM1D-I; Recombinant JHDM1D-I protein; KDM7A; Lysine Demethylase 7A; Jumonji C Domain Containing Histone Demethylase 1 Homolog D; JHDM1D-I recombinant protein

PRODUCT SPECIFICATIONS

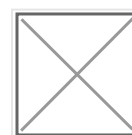
Host	E Coli
Form/Format	20ug of recombinant JHDM1D-I protein expressed in E Coli cells and supplied in 20mM Bis-Tris, pH5.5, 200mM NaCl, 5% (v/v) glycerol and 1mM DTT.
Protein Species	Human
Tag	GST-Tag
Notes	Recombinant JHDM1D-I is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. Shipping Temp: Dry Ice

IMAGES



Application Data

JHDM1D-I activity assay. Recombinant JHDM1D-I activity measured using a fluorescence-based demethylation assay.



SDS-PAGE

JHDM1D-I protein gel. JHDM1D-I (10 ?g) run on a 4-20% SDS-PAGE gel and stained with Coomassie blue.

ADDITIONAL INFORMATION

Related Product Information for JHDM1D-I recombinant protein	Short Description: Recombinant JHDM1D-I, that includes amino acids 1-488 of JHDM1D (accession number NP_085150) was generated by expressing a GST fusion protein containing residues 1-488 of JHDM1D in E Coli, followed by affinity purification and cleavage of the GST-Tag with thrombin to produce a protein with an observed molecular weight of 54.990 kDa. JHDM1D (Jumonji C Domain Containing Histone Demethylase 1 Homolog D), also known as KIAA1718 and KDM7, is a member of the JmjC-containing (Jumonji-C) class of histone demethylase proteins that are involved in the regulation of genome function through the removal of methyl groups from histones. JHDM1D harbors two N-terminal domains, a PHD finger that binds trimethylated lysine 4 of histone H3 (H3K4me3) and a Jumonji domain that demethylates Histone H3 dimethyl Lys9 (H3K9me2), Histone H3 dimethyl Lys27 (H3K27me2)(which are all modifications associated with transcriptional repression), Histone H3 dimethyl Lys36 (H3K36me2) and also Histone H4 monomethyl Lys20 (H4K20me1) via an oxidative pathway that requires the presence of Fe(II) and a-ketoglutarate as cofactors. In the presence of H3K4me3, JHDM1D has no demethylase activity toward H3K9me2, while it has high activity toward H3K27me2. JHDM1D demethylates H3K9me2 in the absence of H3K4me3. JHDM1D has activity toward H4K20me1 only when a nucleosome is used as a substrate, not when a histone octamer is used as a substrate. JHDM1D enzyme is required for brain development. JHDM1D-I is a truncated protein (aa 1-488) that includes the PHD and the catalytic Jumonji domain of JHDM1D. The protein contains different segments for both recognizing and removing opposing methyl groups. While the PHD binds H3K4me3, an alteration associated with transcriptional activation, the Jumonji (catalytic) domain demethylates H3K27me2, a mechanism associated with transcriptional repression. The enzymes' catalytic activity and substrate specificity is thereby enhanced through the simultaneous binding of multiple domains. The ability to apprehend the function of individual methyl marks could lead to a marked understanding of the language of the histone code. Recombinant JHDM1D-I can be used for enzyme kinetics and inhibitor screening studies. Background: JHDM1D (Jumonji C Domain Containing Histone Demethylase 1 Homolog D), also known as KIAA1718 and KDM7, is a member of the JmjC-containing (Jumonji-C) class of histone demethylase proteins that are involved in the regulation of genome function through the removal of methyl groups from histones. JHDM1D harbors two N-terminal domains, a PHD finger that binds trimethylated lysine 4 of histone H3 (H3K4me3) and a Jumonji domain that demethylates Histone H3 dimethyl Lys9 (H3K9me2), Histone H3 dimethyl Lys27 (H3K27me2)(which are all modifications associated with transcriptional repression), Histone H3 dimethyl Lys36 (H3K36me2) and also Histone H4 monomethyl Lys20 (H4K20me1) via an oxidative pathway that requires the presence of Fe(II) and a-ketoglutarate as cofactors. In the presence of H3K4me3, JHDM1D has no demethylase activity toward H3K9me2, while it has high activity toward H3K27me2. JHDM1D demethylates H3K9me2 in the absence of H3K4me3. JHDM1D has activity toward H4K20me1 only when a nucleosome is used as a substrate, not when a histone octamer is used as a substrate. JHDM1D enzyme is required for brain development. JHDM1D-I is a truncated protein (aa 1-488) that includes the PHD and the catalytic Jumonji domain of JHDM1D. The protein contains different segments for both recognizing and removing opposing methyl groups. While the PHD binds H3K4me3, an alteration associated with transcriptional activation, the Jumonji (catalytic) domain demethylates H3K27me2, a mechanism associated with transcriptional repression. The enzymes' catalytic activity and substrate specificity is thereby enhanced through the simultaneous binding of multiple domains. The ability to apprehend the function of individual methyl marks could lead to a marked understanding of the language of the histone code.
Product Categories/Family for JHDM1D-I recombinant protein	Recombinant Proteins; Histone Demethylase (HDM)

NCBI AND UNIPROT INFORMATION

NCBI GI #	90093355
NCBI GeneID	80853
NCBI Accession #	NP_085150
NCBI GenBank Nucleotide #	NM_030647
UniProt Accession #	Q6ZMT4
Molecular Weight	106kDa
NCBI Official Full Name	lysine-specific demethylase 7A
NCBI Official Synonym Full Names	lysine demethylase 7A
NCBI Official Symbol	KDM7A

NCBI Official Synonym Symbols	JHDM1D
NCBI Protein Information	lysine-specific demethylase 7A
UniProt Protein Name	Lysine-specific demethylase 7
UniProt Gene Name	JHDM1D
UniProt Synonym Gene Names	KDM7; KIAA1718
UniProt Entry Name	KDM7_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/jhdm1d-recombinant-protein-e-coli/59698>