Recombinant Human JHDM1D

Cat. No. JHDM1D-47H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human JHDM1D was generated by expressing a GST fusion protein containing residues 92-488 of JHDM1D in E. coli cells, followed by affinity purification and cleavage of the GST tag with thrombin to produce a protein with an observed molecular weight of 45.829 kDa.
Species	Human
Source	E.coli
ProteinLength	92-488 a.a.
Description	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 α-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

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	as a substrate, not when a histone octamer is used as a substrate. JHDM1D enzyme is required for brain development.
Form	20 mM Bis-Tris, pH 5.5, 200 mM NaCl, 5% (v/v) glycerol and 1 mM DTT.
Applications	Enzyme kinetics, inhibitor screening, and selectivity profiling.
Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage.
Concentration	0.3 mg/ml

GENE INFORMATION

Gene Name	JHDM1D jumonji C domain containing histone demethylase 1 homolog D (S. cerevisiae) [Homo sapiens]
Official Symbol	JHDM1D
Synonyms	JHDM1D; jumonji C domain containing histone demethylase 1 homolog D (S. cerevisiae); lysine-specific demethylase 7; KIAA1718; histone lysine demethylase JHDM1D; jmjC domain-containing histone demethylation protein 1D; jumonji C domain-containing histone demethylase 1 homolog D; KDM7A;
Gene ID	80853
mRNA Refseq	NM_030647
Protein Refseq	NP_085150

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UniProt ID	Q6ZMT4
Chromosome Location	7q34
Function	histone demethylase activity (H3-K27 specific); histone demethylase activity (H3-K36 specific); histone demethylase activity (H3-K9 specific); histone demethylase activity (H4-K20 specific); iron ion binding; iron ion binding; metal ion binding; methylated histone residue binding; oxidoreductase activity; oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors; oxidoreductase activity, acting on single donors with incorporation of molecular oxygen, incorporation of two atoms of oxygen; zinc ion binding;

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