Recombinant Human KDM8 Protein (T183-S416), Tag Free

Cat. No. KDM8-0139H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human KDM8(T183-S416 end) Protein was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	T183-S416
Description	Bifunctional enzyme that acts both as an endopeptidase and 2-oxoglutarate-dependent monooxygenase. Endopeptidase that cleaves histones N-terminal tails at the carboxyl side of methylated arginine or lysine residues, to generate 'tailless nucleosomes', which may trigger transcription elongation. Preferentially recognizes and cleaves monomethylated and dimethylated arginine residues of histones H2, H3 and H4. After initial cleavage, continues to digest histones tails via its aminopeptidase activity. Upon DNA damage, cleaves the N-terminal tail of histone H3 at monomethylated lysine residues, preferably at monomethylated 'Lys-9' (H3K9me1). The histone variant H3F3A is the major target for cleavage. Additionnally, acts as Fe(2+) and 2-oxoglutarate-dependent monooxygenase, catalyzing (R)-stereospecific hydroxylation at C-3 of 'Arg-137' of RPS6 and 'Arg-141' of RCCD1, but the biological significance of this activity remains to be established. Regulates mitosis through different mechanisms: Plays a role in transcriptional repression of satellite repeats, possibly by regulating H3K36 methylation levels in centromeric regions together with RCCD1. Possibly together with RCCD1, is involved in proper mitotic spindle organization and chromosome segregation. Negatively regulates cell cycle repressor

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	CDKN1A/p21, which controls G1/S phase transition. Required for G2/M phase cell cycle progression. Regulates expression of CCNA1/cyclin-A1, leading to cancer cell proliferation. Also, plays a role in regulating alpha-tubulin acetylation and cytoskeletal microtubule stability involved in epithelial to mesenchymal transition. Regulates the circadian gene expression in the liver. Represses the transcriptional activator activity of the CLOCK-ARNTL/BMAL1 heterodimer in a catalytically-independent manner. Negatively regulates the protein stability and function of CRY1; required for AMPK-FBXL3-induced CRY1 degradation.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50mM Tris-HCl (pH 7.5), 200mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	KDM8 lysine demethylase 8 [Homo sapiens (human)]
Official Symbol	KDM8

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Synonyms	KDM8; lysine demethylase 8; JMJD5; bifunctional peptidase and arginyl-hydroxylase JMJD5; JmjC arginyl-hydroxylase; L-arginine (3R)-hydroxylase KDM8; arginyl C3-hydroxylase KDM8; jmjC domain-containing protein 5; jumonji C domain-containing protein 5; jumonji domain containing 5; jumonji domain-containing protein 5; lysine (K)-specific demethylase 8; lysine-specific demethylase 8; EC 1.14.11.73
Gene ID	79831
mRNA Refseq	NM_024773
Protein Refseq	NP_079049
MIM	611917
UniProt ID	Q8N371

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