

Recombinant Mouse Kdm8 Protein, Myc/DDK-tagged

Cat. No. Kdm8-3684M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length lysine (K)-specific demethylase 8 (Kdm8), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
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. Additionally, acts as Fe²⁺ 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 CDKN1A/p21, which controls G1/S phase transition. Required for G2/M phase cell

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

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.

Molecular Mass	47.1 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Kdm8 lysine (K)-specific demethylase 8 [<i>Mus musculus</i> (house mouse)]
Official Symbol	Kdm8
Synonyms	Kdm8; lysine (K)-specific demethylase 8; Jmjd5; 3110005O21Rik; bifunctional peptidase and arginyl-hydroxylase JMJD5; 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

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5; lysine-specific demethylase 8; EC 1.14.11.27

Gene ID 77035**mRNA Refseq** NM_029842**Protein Refseq** NP_084118**UniProt ID** Q9CXT6 Tel: 1-631-559-9269 1-516-512-3133 Email: info@creative-biomart.com  Fax: 1-631-938-8127 45-1 Ramsey Road, Shirley, NY 11967, USA