

Product datasheet for RN201317

Kdm8 (NM_001037196) Rat Untagged Clone

Product data:

Product Type: Expression Plasmids
 Product Name: Kdm8 (NM_001037196) Rat Untagged Clone
 Tag: Tag Free
 Symbol: Kdm8
 Synonyms: Jmjd5; RGD1304823
 Vector: pCMV6-Entry (PS100001)
 E. coli Selection: Kanamycin (25 ug/mL)
 Cell Selection: Neomycin
 Fully Sequenced ORF: >RN201317 representing NM_001037196
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCAGAGGACACTACAGAGCCCTAGTGGGGCCAGCACCTCTGGAAGGACCTCAGGGCGCTCCTGC
 CAGACACAGAGGAGGAGCTGAAGCTGGATCTCAGTGAGAAGGTGGACAGGAGCATGGCTACGCTGCTACG
 GCAGGCTTTGGGTCTGTTCTATGAAGGCCGTTGGCAGAAGTGCCTGCAGGCCAGTGAGGCTGTCTGGAC
 TACTCCTGGGAAAAGCTCAACACTGGTCCCTGGCGAGATGTAGACAAGGAATGGCGCCGGGTATATTCTT
 TCGGCTGCCTCCTGAAGACCCTGTGCCTGTGCCAGGCACACAGAAGGCCACTGTGTGGCTGAAGCACT
 GCGGGTGTGTGACATGGGCTGTTGATGGGGGCAGCCATCCTTGGGGACATTCTTCTCAAAGTTGCTACA
 GTCCTCCAGACACATCTGCTCCCTAGAAAGCAGCCTGCCTGTGGCCCTCACCAAGGATCAGCCTGCTACCA
 AGAAGGCAAAGCATGATGCCAGCTCAACTCCTGATGTGGTATTAGATCGGGAAGTGCCAGGCTTCGCTG
 CCCACCTCTGCAGCACTTCAAGAAGCATTTTCTAGTTCCTGGGAGACCTGTGATCTTGAAGGTGTGGCT
 GACCATGGCCGTGCATGAAGAAGTGGAGTCTACAGTACATCCAGGAGATTGCTGGCTGCCGCACTGTCC
 CCGTGGAAGTGGGTTCAAGATACACAGATGAAGACTGGTCCCAGACTCTCATGACAGTCAATGAGTTCAT
 CCACAAATACATTCTGAGCGAGGCAAAGGATGTCGGGTACCTTGCTCAACACCAGCTGTTTCGACCAGATC
 CCAGAGTTGAAGCAGGACATCAGCATCCCCGATTACTGTTGCCTGGGCAATGGAGAAGAGGAAGAGATCA
 CTATCAATGCCTGGTTTGGTCTCAAGGAACCATCTCCCCATTGCATCAGGACCCCCAGCAGAATTCTT
 GGTCCAGGTGTTAGGAAGGAAGTACATCCGGCTGTATTCTCCGCAAGAGTCTGAGGCAGTGTACCCTCAT
 GAGACACACATTCTTATAACACCAGCCAGGTTGATGTGAAAACCCCGACCTAGAGAAGTTCCTCAAGT
 TCACCGAGGCCCGTTTCTGTCTGCATTCTGTCCCCAGGAGACACCCTTTTATACCTGCTAAGTACTG
 GCATTACGTGCGCTCCCTGGACCTGAGCTTCTCTGTCAGCTTCTGGTGGTCA**TAG**

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA



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Restriction Sites:	Sgfl-Mlul
ACCN:	NM_001037196
Insert Size:	1245 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none"> 1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	<u>NM_001037196.1</u> , <u>NP_001032273.1</u>
RefSeq Size:	2460 bp
RefSeq ORF:	1245 bp
Locus ID:	308976
UniProt ID:	<u>Q497B8</u>
Cytogenetics:	1q36

Gene Summary:

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 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 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 (By similarity). Regulates the circadian gene expression in the liver (By similarity). Represses the transcriptional activator activity of the CLOCK-ARNTL/BMAL1 heterodimer in a catalytically-independent manner (By similarity). Negatively regulates the protein stability and function of CRY1; required for AMPK-FBXL3-induced CRY1 degradation (By similarity).[UniProtKB/Swiss-Prot Function]