

Product datasheet for **MR210741**

Kdm1a (NM_133872) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Kdm1a (NM_133872) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Kdm1a
Synonyms:	1810043O07Rik; AA408884; Aof2; D4Ertd478e; Kdm1; Lsd1; mKIAA0601
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide
Sequence:**

>MR210741 representing NM_133872
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCTACGGGGCGGCCGGCGAGCGCACTCCCGAAAGAAGGAGCCTCCGCGGGCTCGCCGCCGGGG
 GCCTAGCCGAGCCGCGGGGTCTGCTGGGCCCCAGGCGGGGCCACAGCCGGGCCGGCTCCGCGACGCC
 CATGGAGACCGGAATAGCCGAGACCCCGAGGGCCGACGACCAGCCGGCGCAAGCGGGCAAGGTAGAA
 TACAGAGAAATGGATGAAAGCTTGGCCAACCTCTCAGAAGATGAATATTATTCGGAAGAAGAAAGAAATG
 CTAAGCAGAGAAGGAAAAGAAGCTTCCCCACCACCTCTCAAGCCCCACCTGAGGAAGAAAATGAAAG
 TGAGCCGAAGAGCCGTCTGGTGTGGAGGGTGCAGCTTTTCAAAGCCGACTTCCCATGACCGAATGACC
 TCTCAGGAAGCAGCCTGTTCCAGACATCATCAGTGGGCCTCAGCAGACACAGAAGTTTTTCTGTTC
 TCAGGAATCGCACATTGCAGTTATGGCTGGACAACCTCAAAGATCCAGCTGACGTTTGAAGCCACTCTCCA
 GCAGCTGGAAGCGCCTTACAACAGCGATACTGTGCTTGTCCACCGAGTTCACAGTTACTTAGAGCGCCAT
 GGTCTTATCAACTTCGGCATCTACAAGAGGATAAAACCCTTACCAATTAAGAAAGACAGGAAAGGTGATTA
 TTATAGTTTCAGGTGTTTCTGGCTTGGCAGCAGCTCGACAGCTACAGAGTTTTGGGATGGATGTCACACT
 TCTGGAAGCCAGGGATCGAGTAGGTGGACGAGTTGCTACATTTGAAAAGGAAACTATGTAGCTGATCTT
 GGCGCCATGGTTGTAACAGGTCTTGGAGGGAATCCCATGGCTGTGTCAGCAAACAAGTAAATATGGAAC
 TGGCCAAGATCAAGCAAAAATGCCCACTTTATGAAGCCAATGGACAAGCTGTTCCAAAAGAAAAGATGA
 AATGGTAGAACAAGAATTAACCGTTGCTAGAAGCCACTTCTTACCTTAGTCACCAGTTAGACTTCAAC
 GTCCTCAATAATAACCTGTATCCCTTGGCCAGGCATTGGAGGTTGTATTGAGTGAAGAAAAGCATTG
 TCAAAGATGAGCAGATTGAACATTGGAAGAAGATAGTGAAGAACTCAGGAGGAGTTGAAAGAGCTTTAA
 TAAGATGGTAAATTTGAAGGAGAAAATTAAGAGCTCCATCAGCAATACAAGAAGCTTCAGAAGTGAAG
 CCGCCCAGAGATATCACAGCCGAGTTCTGGTGAAGAGCAAGCACAGGGACCTGACTGCCCTCTGCAAGG
 AATATGATGAATTAGCTGAAACACAAGGAAAGCTAGAAGAAAACCTTCAAGAATTGGAAGCCAATCCCC
 AAGTGTGTATACCTCTCATCAAGAGACAGACAAATACTTACTGGCATTGTTGCAATCTTGAATTTGCC
 AACGCCACACCTCTCTACCCTCTCTTAAACATTGGGATCAGGATGATGACTTTGAGTTTACTGGAA
 GCCACCTGACAGTAAGGAATGGTACTCATGTGTGCCTGTGGCTTAGCTGAAGGCTTGGACATTAACCT
 GAACACAGCAGTCCGGCAGTTCCGCTACACAGCCTCAGGATGTGAAGTATTGCTGTGAACACACGTTCC
 ACAAGTCAAACCTTTATTTATAAGTGTGATGCAGTTCTCTGTACACTTCTTTGGGAGTGTGAAGCAGC
 AGCCACCAGCTGTTGAGTTGTGCCACCTTCTCCTGAGTGGAAAACATCTGCAGTCCAAAGGATGGGATT
 TGGCAACCTTAACAAGGTGGTGTATGCTTTGACCGTGTGTTCTGGGACCAAGTGTCAATTTGTTGGG
 CAGTTGGCAGTACAACCTGCTAGCAGGGGTGAGCTCTTCTCTTCTGGAACCTATATAAGCTCCAATAC
 TATTGGCCCTGGTAGCAGGAGAAGCTGTGGCATTATGGAGAACATTAGTGATGATGATTGTCGGCCG
 GTGCTGGCCATTCTCAAAGGATTTTTGGCAGCAGTGCAGTCCCACAGCCCAAGGAACTGTGGTATCT
 CGTTGGCGTGTGATCCGTGGGCCCGGGGCTCCTATTCTATGTGGCTGCAGGATCCTCTGGAATGACT
 ATGATTTAATGGCTCAGCCGATCACTCTGGCCCTCAATCCAGGTGCCACAGCCAATCCCAAGACT
 CTTCTTTGCTGGAGAACACACAATCCGGAACCTACCCAGCTACAGTCCATGGTGCTCTGTTGAGTGGGCT
 CGAGAAGCAGGAAGGATTGCCGACAGTTTTTGGGAGCCATGTACACTTGCCTCGTCAGGCCACACCCAG
 GTGTCCCTGCACAGCAGTCCCAAGTATG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR210741 representing NM_133872
 Red=Cloning site Green=Tags(s)

MATGAAGERTPRKKEPPRASPPGGLAEPGSGAGPQAGPTAGPGSATPMETGIAETPEGRRTSRRKRAKVE
 YREMDLANLSEDEYYSEEERNAKAEKEKLP PPPPQAPPEEENESEPEEPSGVEGAAFQSRLPHDRMT
 SQEAACFPDIISGPQQTQKVFLFIRNRTLQLWLDNSKIQLTFEATLQQLEAPYNSDTVLVHRVHSYLERH
 GLINFGIYKRIKPLPIKKTGKVIIGSGVSGLAAARQLQSFQMDVTLLEARDRVGGRVATFRKGNVYADL
 GAMVVTGLGGNPMVAVSKQVNMELAKIKQKCPLEYANGQAVPKEKDEMVEQEFNRLLEATSYL SHQLDFN
 VLNNKPVSLGQALEVVIQLQEKHVKDEQIEHWKIVKTQEELKELLNKMVNLKEKIKELHQQYKEASEVK
 PPRDITAEFLVKSKHRDLTALCKEYDELAETQGKLEEKLQELANPPSDVYLSSRDRQILDWHFANLEFA
 NATPLSTLSLKHWDQDDDFEFTGSHLTVRNGYSCVPVALAEGLDIKLNTAVRQVRYTASGCEVI AVNTRS
 TSQTFIYKDAVLCTPLGVLKQPPAVQFVPLPEWKTSAVQRMGFNLNKVLCFDRVFWDPVNLFG
 HVGSTTASRGELFLFWNLKAPILLALVAGEAAGIMENISDDVIVGRCLA ILKGFSSAVPQPKETVVS
 RWRADPWARGSYSYVAAGSSGNDYDLMAQPIITPGPSIPGAPQIPRLFFAGEHTIRNYPATVHGALLSGL
 REAGRIADQFLGAMYTLP RQATPGVPAQQSPSM

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites: Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_133872
 ORF Size: 2409 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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:

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: [NM_133872.1](#), [NP_598633.1](#)

RefSeq Size: 2999 bp

RefSeq ORF: 2562 bp

Locus ID: 99982

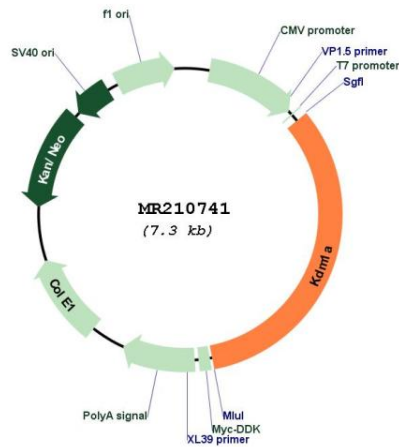
UniProt ID: [Q6ZQ88](#)

Cytogenetics: 4 68.8 cM

MW: 93.3 kDa

Gene Summary:

Histone demethylase that can demethylate both 'Lys-4' (H3K4me) and 'Lys-9' (H3K9me) of histone H3, thereby acting as a coactivator or a corepressor, depending on the context. Acts by oxidizing the substrate by FAD to generate the corresponding imine that is subsequently hydrolyzed. Acts as a corepressor by mediating demethylation of H3K4me, a specific tag for epigenetic transcriptional activation. Demethylates both mono- (H3K4me1) and di-methylated (H3K4me2) H3K4me. May play a role in the repression of neuronal genes. Alone, it is unable to demethylate H3K4me on nucleosomes and requires the presence of RCOR1/CoREST to achieve such activity. Also acts as a coactivator of androgen receptor (ANDR)-dependent transcription, by being recruited to ANDR target genes and mediating demethylation of H3K9me, a specific tag for epigenetic transcriptional repression. The presence of PRKCB in ANDR-containing complexes, which mediates phosphorylation of 'Thr-6' of histone H3 (H3T6ph), a specific tag that prevents demethylation H3K4me, prevents H3K4me demethylase activity of KDM1A. Demethylates di-methylated 'Lys-370' of p53/TP53 which prevents interaction of p53/TP53 with TP53BP1 and represses p53/TP53-mediated transcriptional activation (By similarity). Demethylates and stabilizes the DNA methylase DNMT1. Required for gastrulation during embryogenesis. Component of a RCOR/GFI/KDM1A/HDAC complex that suppresses, via histone deacetylase (HDAC) recruitment, a number of genes implicated in multilineage blood cell development. Effector of SNAI1-mediated transcription repression of E-cadherin/CDH1, CDN7 and KRT8. Required for the maintenance of the silenced state of the SNAI1 target genes E-cadherin/CDH1 and CDN7.[UniProtKB/Swiss-Prot Function]

Product images:


Circular map for MR210741