

## Product datasheet for **MG211928**

### **Kdm3a (NM\_173001) Mouse Tagged ORF Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Kdm3a (NM_173001) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Kdm3a
Synonyms:	1700105C21Rik; C230043E16Rik; JHDM2a; Jmjd1; Jmjd1a; KDM2A; TGSA; Tsga
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG211928 representing NM_173001 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

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TGGTTTTGGCAGAACGAAAATCACCTGAAGTTCCTGAGCAAGTTATTCAGTGGCCTGCAATAATGTACAA  
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GTAGATAATGAAAGCTGTTGTACAAGAAGCAGTAATAAAACCCAGACTCCCCAGCCCGGAAGTCAGTTT  
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AGATGCAGTTGCTATGCTGAAAGCCAGTGAATCCAGTTTGGGCAAACCT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >MG211928 representing NM\_173001  
 Red=Cloning site Green=Tags(s)

MVLTLGESWPVLVGKRFLLSAAEGNEGGQDNWDLERVAEWPWLSGTIRAVSHTDVTKKDLKVCVEFDGE  
 SWRKRRIWIDVYSLQRKAFLEHNLVLAERKSPEVPEQVIQWPAIMYKSLLDKAGLGAITSVRFLGDQSV  
 FVSKDLLKPIQDVNSLRLLSLTDNQTVSKEFQALIVKHLDESHLLQGDKNLVGSEVKIYSLDPSTQWF SAT  
 VVHGNPSSKTLQVNCEEIPALKIVDPALIHVEVVHDNFVTCGNSTRTGAVKRKSSENNNGSSVSKQAKSCS  
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 LTMPILKNEIKCLPPLPLNKPSTVLHFTFNSTILTPVSNNSGFLRNLLNSSTAKTENGLKNTPKILDDI  
 FASLVQNKTSDDSSSRPQGLTIKPSILGFDTPHYWLCNRLCLQDPNNKSNWNVVFRECWKQGPVMVSG  
 VHHKLNTELWKPEFRKEFGEQEVLDVNCRTNEIITGATVGDVDFWDFEDVPNRLKNDKEKPMVLLKLDW  
 PPGEDFRDMMPSRFDDLMANIPLPEYTRRDGKLNLASRLPNYFVRPDLGPKMYNAYGLITPEDRKYGTN  
 LHLDVSDAANVMVYVGIKPGQCEQEEVLRITQDGDSELTIKRFIEGKEKPGALWHIYAADKTEKIREF  
 LKKVSEEQGDNPADHDPIDHQSWYLDRLRKLRYQYEGVQGWAIQVFLGDVVFIPAGAPHQVHNLYS  
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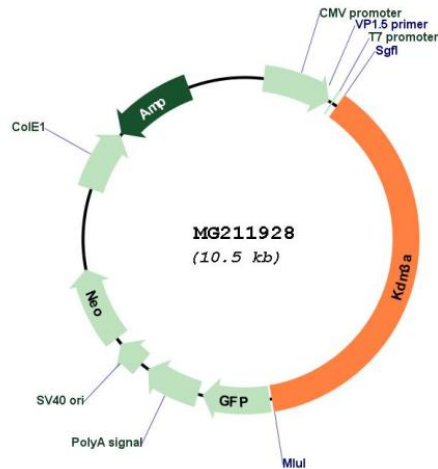
TRTRPLE - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**


**ACCN:** NM\_173001

**ORF Size:** 4854 bp

**OTI Disclaimer:** 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\\_173001.3](#), [NP\\_766589.1](#)

**RefSeq Size:** 4688 bp

**RefSeq ORF:** 3972 bp

**Locus ID:** 104263

**UniProt ID:** [Q6PCM1](#)

**Cytogenetics:** 6 C1

**Gene Summary:**

Histone demethylase that specifically demethylates 'Lys-9' of histone H3, thereby playing a central role in histone code. Preferentially demethylates mono- and dimethylated H3 'Lys-9' residue, with a preference for dimethylated residue, while it has weak or no activity on trimethylated H3 'Lys-9'. Demethylation of Lys residue generates formaldehyde and succinate. Involved in hormone-dependent transcriptional activation, by participating in recruitment to androgen-receptor target genes, resulting in H3 'Lys-9' demethylation and transcriptional activation (By similarity). Involved in spermatogenesis by regulating expression of target genes such as PRM1 and TNP1 which are required for packaging and condensation of sperm chromatin (PubMed:17943087). Involved in obesity resistance through regulation of metabolic genes such as PPARA and UCP1.[UniProtKB/Swiss-Prot Function]