

Product datasheet for **MR209233**

Cdyl (NM_009881) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cdyl (NM_009881) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cdyl
Synonyms:	A1325931
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>MR209233 representing NM_009881
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGGCATAGGCAATAGCCAGCCTAATTCACAGGAAGCCAGCTCTGCACACTTCCAGAGAAAGCTGAAC
 AACCTACTGATGATAACACCTGCCAGCAAAATAATGTGGTTCTGCAACAGTCTCAGAACCAGATCAAGC
 GTCCCCTGCAATTCAAGACGCGGAGACTCAGGTGAAAGTATCGTTGACAAAAGGAAAAACAAGAAAGG
 AAGACAGAATATCTGGTGCAGTGAAGGCTATGACAGTGAAGTACACGTGGGAGCCTGAGCAGCACC
 TGGTGAAGTGTGAGGAATACATCCATGACTTCAACCGCGCCACAACGAGAGGCAAAAGGAGGTAGCCT
 GGCTCGTGCCAGCAGAGCCTCCCCAGCAACGCCCGGAAGCAGATTTCCAGGTCCACCCACAGCACTCTC
 TCCAAGACCAACTCCAAGCACTTGTGGTAGGCAAGATCATGAGTCCAAAAGCAGCCAGCTGTTGGCTG
 CCAGCCAGAAGTTCAGGAAAAACCCAGCCCATCTCTTGCAAACCGCAAGAACATGGACCTCGCCAAGTC
 AGGGATCAAAATTCCTGTCCTAAGAGCCCGTTAAGGGCAGGACCTCGTTGATGGCTTTCAGGGGGAG
 AGCCCCGAGAAGCTGGACCTGTGGATCAGGGTCCGAGGACACTGTAGCCCAGAGGTGACTGCAGAGA
 AGCCCACTGGGGCTTTGCTGGGCCCTGGTGCAGGAGCAGCCAGGATGGGGAGCAGGCCCCGAATACATCC
 ACTAGTGCCTCAGGTTTCTGGCCCCGACTGCTGCCATGGCCACAGGCTTAGCTGTTAATGAAAAAGGT
 ACATCTCCATTATGGATGCGCTAGCAGCAACGGAACAGTACCATACAGACATCCGTAACAGGAGTGA
 CAGCCGGGAAAAGGAAATTTATTGACGACAGAAGACCAACCTTTTGACAAGCGGTTGCGTTTCAGTGT
 GAGGCAGACAGAGAGTGCCTACAGATACAGAGATATTGTCGTGAGGAAGCAAGATGGCTTACCCACATC
 TTGTTATCCACAAAATCGTCAGAGAATAACTCACTAAACCCAGAGGTGATGAAAGAAGTGCAGAGCGCC
 TGAGCACAGCTGCAGCCGACGACAGCAAGCTGGTTCTGCTCAGCGCCGTTGGCAGCGTCTTCTGCTGTGG
 TCTGGACTTTATTTATTTTATTTCGGCGCCTCACAGATGACCGAAAGAGAGAAAGCACTAAAATGGCAGAC
 GCTATCAGAAACTTCGTGAATACTTTTCATTGAGTTAAGAAGCCTATTATTGTAGCTGTTAATGGCCAG
 CCATTGGACTAGGAGCATCCATATTGCCTCTTTGTGATGTGGTTTGGGCTAACGAAAAGGCTTGGTTTCA
 AACACCTATACCACCTTCGGACAGAGTCCAGATGGTGTCTACCGTTATGTTTCCAAGATTATGGGA
 GGAGCATCTGCGAATGAAATGCTGTTGAGTGGCGGAAGTTGACGGCACAGGAGGCTGTGGCAAGGGTC
 TGGTCTCCAGGTGTTTTGGCCAGGAACCTTACACAGGAAGTCATGGTTCGAATCAAGGAGCTGGCTTC
 ATGTAACCCAGTGTCTGGAGGAATCCAAGCCCTGGTGCCTGCAATATGAAGATGGAGCTAGAGCAG
 GCCAATGAGAGAGATGTGAAGTCTGAAGAAGATCTGGGGCTCCGCCAGGGCATGGACTCCATGTTAA
 AGTACTTACAGAGGAAAATCGATGAGTTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR209233 representing NM_009881
 Red=Cloning site Green=Tags(s)

MGIGNSQPNSQEAQLCTLPEKAEQPTDNTCQNNVVPATVSEPDQASPAIQDAETQVESIVDKRKNKKG
 KTEYLVRWKGYDSEDDTWEPEQHLVNCEEYIHDFNRRHNERQKEGSLARASRASPNSARKQISRSTHSTL
 SKTNSKALVVGKDHESSQLLAASQKFRKNPAPSLANRKNMDLAKSGIKILVPKSPVKGRTSVDGFQGE
 SPEKLDVPDQGAEDTVAPEVTAEKPTGALLGPGAERARMGSRPRIHPLVPQVSGPVTAAMATGLAVNGKG
 TSPFMDALAANGTVTIQTSVTGTAGKRKFIDRRDQPFDKRLRFVSRQTESAYRYRDIIVVRKQDGFTHI
 LLSTKSSENSLNPEVMKEVQSALSTAAADDSKLVLLSAVGSVFCGLDFIYFIRRLTDDRKRESTKMD
 AIRNFVNTFIQFKKPIIVAVNGPAIGLGLASILPLCDVVWANEKAWFQTPYTFGQSPDGCVTFMFKIMG
 GASANEMLFSGRKLTAQEACGKGLVSQVFWPGTFTQEVVRIKELASCNPVVLEESKALVRCNMKMELEQ
 ANERECEVLKKIWGSAQGMDSMLKYLQRKIDEF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

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:	<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:	NM_009881.3 , NP_034011.1
RefSeq Size:	3444 bp
RefSeq ORF:	1782 bp
Locus ID:	12593
UniProt ID:	Q9WTK2
Cytogenetics:	13 14.39 cM
MW:	65.7 kDa

Gene Summary:

Isoform 2: Chromatin reader protein that recognizes and binds histone H3 trimethylated at 'Lys-9', dimethylated at 'Lys-27' and trimethylated at 'Lys-27' (H3K9me3, H3K27me2 and H3K27me3, respectively) (PubMed:12947414). Part of multimeric repressive chromatin complexes, where it is required for transmission and restoration of repressive histone marks, thereby preserving the epigenetic landscape (PubMed:12947414). Required for chromatin targeting and maximal enzymatic activity of Polycomb repressive complex 2 (PRC2); acts as a positive regulator of PRC2 activity by bridging the pre-existing histone H3K27me3 and newly recruited PRC2 on neighboring nucleosomes (By similarity). Acts as a corepressor for REST by facilitating histone-lysine N-methyltransferase EHMT2 recruitment and H3K9 dimethylation at REST target genes for repression (By similarity). Involved X chromosome inactivation in females: recruited to Xist RNA-coated X chromosome and facilitates propagation of H3K9me2 by anchoring EHMT2 (PubMed:24144980). Required for neuronal migration during brain development by repressing expression of RHOA (PubMed:28076783). In addition to act as a chromatin reader, acts as a hydro-lyase (By similarity). Shows crotonyl-coA hydratase activity by mediating the conversion of crotonyl-CoA ((2E)-butenoyl-CoA) to beta-hydroxybutyryl-CoA (3-hydroxybutanoyl-CoA), thereby acting as a negative regulator of histone crotonylation (By similarity). Histone crotonylation is required during spermatogenesis; down-regulation of histone crotonylation by CDYL regulates the reactivation of sex chromosome-linked genes in round spermatids and histone replacement in elongating spermatids (PubMed:28803779). May have histone acetyltransferase activity; such activity is however unsure in vivo (PubMed:12072557).[UniProtKB/Swiss-Prot Function]