

Product datasheet for **RR202766**

Dnmt3l (NM_001003964) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Dnmt3l (NM_001003964) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Dnmt3l
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RR202766 representing NM_001003964 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGTTCCCGGGAGACACCTTCTCTCTGCTCTAAGACCCATGAAACCTTGAACCTGGAGACTCCGGAGA
GCTCTAGCACTGACCCTGACAGTCCCCTGGAAGCAATGGCCGAAATCAGCCCCAGATCTGAAAGAGGA
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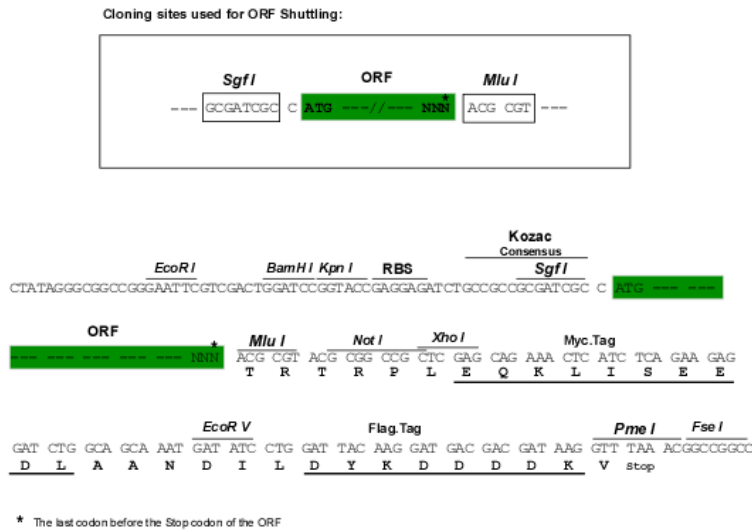
Protein Sequence: >RR202766 representing NM_001003964
Red=Cloning site Green=Tags(s)

MGSRETPSSCSKTHETLNLETPESSSTDPDPLEEQWPKSAPDLKEEDSMDMVLEDSKEPLTPSSPPTGR
 EVIRYEVNVNQRNIEDIICLCCGSLQVYAQHPLFEGGICAPCKDKFLETFLYDEDGHQSYCTICCSGHTL
 FICESPDCTRCYCFECVDILVPGT SERINAMACWVFC LCLPFSRGLLQRRKKWRHQLKAFHDREGASP
 VEIYKTVSAWKRPVRLSLFGNIDKELKSLGFLESSSGSEGGLKYVEDVTNVVRRREVEKWGPFDLVYG
 STQPLGYSCDRCPGWYMFQFHRILQYARPRQDSQQPFFWIFVDNLLL TEDDQETT VRFLQTEAVTLQDVR
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 PL

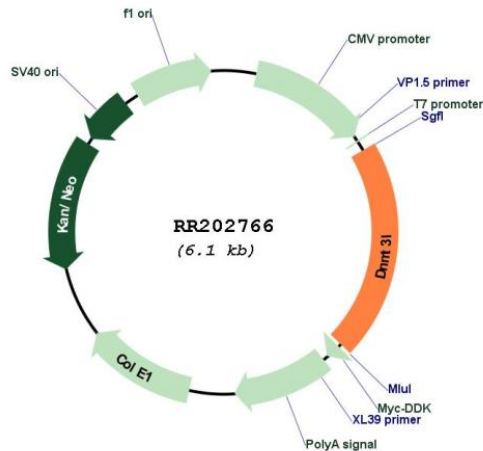
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN:	NM_001003964
ORF Size:	1266 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:	<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_001003964.1 , NP_001003964.1
RefSeq Size:	1689 bp
RefSeq ORF:	1269 bp
Locus ID:	309680
UniProt ID:	Q1LZ50
Cytogenetics:	20p12
MW:	48.3 kDa

Gene Summary:

Catalytically inactive regulatory factor of DNA methyltransferases that can either promote or inhibit DNA methylation depending on the context. Essential for the function of DNMT3A and DNMT3B: activates DNMT3A and DNMT3B by binding to their catalytic domain. Acts by accelerating the binding of DNA and S-adenosyl-L-methionine (AdoMet) to the methyltransferases and dissociates from the complex after DNA binding to the methyltransferases (By similarity). Recognizes unmethylated histone H3 lysine 4 (H3K4me0) and induces de novo DNA methylation by recruitment or activation of DNMT3 (By similarity). Plays a key role in embryonic stem cells and germ cells. In germ cells, required for the methylation of imprinted loci together with DNMT3A. In male germ cells, specifically required to methylate retrotransposons, preventing their mobilization. Plays a key role in embryonic stem cells (ESCs) by acting both as a positive and negative regulator of DNA methylation. While it promotes DNA methylation of housekeeping genes together with DNMT3A and DNMT3B, it also acts as an inhibitor of DNA methylation at the promoter of bivalent genes. Interacts with the EZH2 component of the PRC2/EED-EZH2 complex, preventing interaction of DNMT3A and DNMT3B with the PRC2/EED-EZH2 complex, leading to maintain low methylation levels at the promoters of bivalent genes. Promotes differentiation of ESCs into primordial germ cells by inhibiting DNA methylation at the promoter of RHOX5, thereby activating its expression (By similarity).[UniProtKB/Swiss-Prot Function]