

## Product datasheet for **RR202766L4V**

### **Dnmt3l (NM\_001003964) Rat Tagged ORF Clone Lentiviral Particle**

#### **Product data:**

Product Type:	Lentiviral Particles
Product Name:	Dnmt3l (NM_001003964) Rat Tagged ORF Clone Lentiviral Particle
Symbol:	Dnmt3l
Mammalian Cell Selection:	Puromycin
Vector:	pLenti-C-mGFP-P2A-Puro (PS100093)
Tag:	mGFP
ACCN:	NM_001003964
ORF Size:	1266 bp
ORF Nucleotide Sequence:	The ORF insert of this clone is exactly the same as(RR202766).
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. <a href="#">More info</a>
OTI Annotation:	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
RefSeq:	<a href="#">NM_001003964.1</a> , <a href="#">NP_001003964.1</a>
RefSeq Size:	1689 bp
RefSeq ORF:	1269 bp
Locus ID:	309680
UniProt ID:	<a href="#">Q1LZ50</a>
Cytogenetics:	20p12



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**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]