

## Product datasheet for MR229774

### Suv39h1 (NM\_001290716) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Suv39h1 (NM_001290716) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Suv39h1
Synonyms:	AI852103; AL022883; DXHXS7466e; H3-K9-HMTase 1; KMT1A; miS6
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>MR229774 representing NM_001290716 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGC**C

ATGGGGGAGCCGGCGACTCTAGGTTGCAGTGTGTGCTGTAATCTTCTTGAATCAACTGCAGGACCTGT  
GCCGACTAGCCAAGCTTTCTTGTCTGCCCTTGGTGTCTTAAGAAGAATCTGTATGACTTTGAAGTTGA  
ATACCTGTGTGATTATAAGAAGATCCGTGAGCAGGAGTATTACCTGGTTAAGTGGCGTGGGTATCCCGAC  
TCAGAAAACACCTGGGAGCCACGGCAGAATCTAAAATGTATACGAGTTCTTAAGCAGTCCACAAGGACT  
TAGAAAAGAGAGCTTGTCCGACGACACCCCGGTCAAAGCCACCCAGGCATCTGGACCCAAACCTAGCCAA  
TTACCTGGTGCAGAAGCCAAGCAGAGGCGGGCACTTCAGCGTTGGGAACAAGAGCTCAATGCCAAGCGC  
AGCCACCTGGGGCGGATCACCGTGGAGAATGAGGTAGACCTGGATGGCCCTCCAAGGTCCTTTGTCTATA  
TCAATGAGTATCGAGTTGGTGGGGCATCACCCCAACCAGGTAGCTGTTGGCTGTGAGTGCCAGGACTG  
TCTGTTGGCACCCTGGAGGCTGTTGCCCTGGAGCATCCCTGCACAAGTTTGCCTACAATGACCAAGGC  
CAGGTGCGACTGAAAGCTGGGCAGCCCATCTACGAGTGCAACTCCCGCTGTTGCTGTGGCTATGACTGCC  
CAAACCGTGTAGTCCAGAAAGGCATCCGCTACGATCTCTGCATCTCCGCACTAATGATGGCCGAGGCTG  
GGGTGTCGACGCTGGAAAAGATCCGAAAAAATAGCTTTGTTATGGAGTATGTGGGAGAGATTATTACC  
TCAGAGGAGGCAGAGCGAGGGGCCAGATCTACGACCGCCAGGGCGCCACCTACCTCTTTGACCTGGACT  
ACGTGGAAGACGTATATACCGTGGATGCCGCTTATTATGGCAACATCTCTCATTTTGTCAACCATAGTTG  
TGATCCCAACCTGCAGGTGTACAACGTATTATAGACAACCTTGATGAGCGACTACCCCGCATCGCATTC  
TTTGCCACAAGAACCATCTGGGCGGGCAGGAGCTCACCTTTGATTACAACATGCAAGTGGACCCCGTGG  
ACATGGAGAGTACCCGAATGGACTCCAACCTTTGGCCTGGCTGGGCTCCCGGCTCCCCAAGAAACGAGT  
CCGATTGAATGCAAATGTGGACAACGGCTTGCCGAAAAATACCTCTTC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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<b>ORF Size:</b>	1239 bp
<b>OTI Disclaimer:</b>	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>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001290716.2</a>
<b>RefSeq Size:</b>	3097 bp
<b>RefSeq ORF:</b>	1242 bp
<b>Locus ID:</b>	20937
<b>UniProt ID:</b>	<a href="#">O54864</a>
<b>Cytogenetics:</b>	X 3.64 cM
<b>MW:</b>	48.2 kDa

**Gene Summary:**

Histone methyltransferase that specifically trimethylates 'Lys-9' of histone H3 using monomethylated H3 'Lys-9' as substrate. H3 'Lys-9' trimethylation represents a specific tag for epigenetic transcriptional repression by recruiting HP1 (CBX1, CBX3 and/or CBX5) proteins to methylated histones. Mainly functions in heterochromatin regions, thereby playing a central role in the establishment of constitutive heterochromatin at pericentric and telomere regions. H3 'Lys-9' trimethylation is also required to direct DNA methylation at pericentric repeats. SUV39H1 is targeted to histone H3 via its interaction with RB1 and is involved in many processes, such as repression of MYOD1-stimulated differentiation, regulation of the control switch for exiting the cell cycle and entering differentiation, repression by the PML-RARA fusion protein, BMP-induced repression, repression of switch recombination to IgA and regulation of telomere length. Component of the eNoSC (energy-dependent nucleolar silencing) complex, a complex that mediates silencing of rDNA in response to intracellular energy status and acts by recruiting histone-modifying enzymes. The eNoSC complex is able to sense the energy status of cell: upon glucose starvation, elevation of NAD(+)/NADP(+) ratio activates SIRT1, leading to histone H3 deacetylation followed by dimethylation of H3 at 'Lys-9' (H3K9me2) by SUV39H1 and the formation of silent chromatin in the rDNA locus. Recruited by the PER complex to the E-box elements of the circadian target genes such as PER2 itself or PER1, contributes to the conversion of local chromatin to a heterochromatin-like repressive state through H3 'Lys-9' trimethylation.[UniProtKB/Swiss-Prot Function]