Recombinant Mouse Nsun2 Protein, Myc/DDK-tagged

Cat. No. Nsun2-4511M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length NOL1/NOP2/Sun domain family 2 (cDNA clone MGC:18985 IMAGE:4011674), complete cds, with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	RNA cytosine C5-methyltransferase that methylates cytosine to 5-methylcytosine (m5C) in various RNAs, such as tRNAs, mRNAs and some long non-coding RNAs (lncRNAs). Involved in various processes, such as epidermal stem cell differentiation, testis differentiation and maternal to zygotic transition during early development: acts by increasing protein synthesis; cytosine C5-methylation promoting tRNA stability and preventing mRNA decay. Methylates cytosine to 5-methylcytosine (m5C) at positions 34 and 48 of intron-containing tRNA(Leu)(CAA) precursors, and at positions 48, 49 and 50 of tRNA(Gly)(GCC) precursors. tRNA methylation is required generation of RNA fragments derived from tRNAs (tRFs). Also mediates C5-methylation of mitochondrial tRNAs. Catalyzes cytosine C5-methylation of mRNAs, leading to stabilize them and prevent mRNA decay: mRNA stabilization involves YBX1 that specifically recognizes and binds m5C-modified transcripts. Cytosine C5-methylation of mRNAs also regulates mRNA export: methylated transcripts are specifically recognized by THOC4/ALYREF, which mediates mRNA nucleo-cytoplasmic shuttling. Also mediates cytosine C5-methylation of non-coding RNAs, such as vault RNAs (vtRNAs), promoting their processing into regulatory small RNAs. Cytosine C5-

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	methylation of vtRNA VTRNA1.1 promotes its processing into small-vault RNA4 (svRNA4) and regulates epidermal differentiation. May act downstream of Myc to regulate epidermal cell growth and proliferation. Required for proper spindle assembly and chromosome segregation, independently of its methyltransferase activity.
Molecular Mass	58.4 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 μg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Nsun2 NOL1/NOP2/Sun domain family member 2 [Mus musculus (house mouse)]
Official Symbol	Nsun2
Synonyms	Nsun2; NOL1/NOP2/Sun domain family member 2; Mi; Misu; D13Wsu123e; RNA cytosine C(5)-methyltransferase NSUN2; Myc-induced SUN domain containing protein; NOL1/NOP2/Sun domain family 2; mRNA cytosine C(5)-methyltransferase; myc-induced SUN domain-containing protein; tRNA (cytosine(34)-C(5))-methyltransferase; tRNA (cytosine-5-)-methyltransferase NSUN2; tRNA cytosine C(5)-methyltransferase; EC 2.1.1.203

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Gene ID	28114
mRNA Refseq	NM_145354
Protein Refseq	NP_663329
UniProt ID	Q1HFZ0

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