Datasheet for ABIN7554810

# NSUN2 Protein (AA 1-767) (His tag)

Go to Product page

## Overview

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| Quantity: | 1 mg |
| Target: | NSUN2 |
| Protein Characteristics: | AA 1-767 |
| Origin: | Human |
| Source: | HEK-293 Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This NSUN2 protein is labelled with His tag. |
| Application: | SDS-PAGE (SDS), Western Blotting (WB) |

## Product Details

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| Purpose: | Custom-made recombinat NSUN2 Protein expressed in mammalien cells. |
| Sequence: | MGRRSRGRRL QQQQRPEDAE DGAEGGGKRG EAGWEGGYPE IVKENKLFEH YYQELKIVPE GEWGQFMDAL REPLPATLRI TGYKSHAKEI LHCLKNKYFK ELEDLEVDGQ KVEVPQPLSW YPEELAWHTN LSRKILRKSP HLEKFHQFLV SETESGNISR QEAVSMIPPL LLNVRPHHKI LDMCAAPGSK TTQLIEMLHA DMNVPFPEGF VIANDVDNKR CYLLVHQAKR LSSPCIMVVN HDASSIPRLQ IDVDGRKEIL FYDRILCDVP CSGDGTMRKN IDVWKKWTTL NSLQLHGLQL RIATRGAEQL AEGGRMVYST CSLNPIEDEA VIASLLEKSE GALELADVSN ELPGLKWMPG ITQWKVMTKD GQWFTDWDAV PHSRHTQIRP TMFPPKDPEK LQAMHLERCL RILPHHQNTG GFFVAVLVKK SSMPWNKRQP KLQGKSAETR ESTQLSPADL TEGKPTDPSK LESPSFTGTG DTEIAHATED LENNGSKKDG VCGPPPSKKM KLFGFKEDPF VFIPEDDPLF PPIEKFYALD PSFPRMNLLT RTTEGKKRQL YMVSKELRNV LLNNSEKMKV INTGIKVWCR NNSGEEFDCA FRLAQEGIYT LYPFINSRII TVSMEDVKIL LTQENPFFRK LSSETYSQAK DLAKGSIVLK |

## Product Details

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| | YEPDSANPDA LQCPIVLCGW RGKASIRTFV PKNERLHYLR MMGLEVLGEK KKEGVILTNE SAASTGQPDN DVTEGQRAGE PNSPDAEEAN SPDVTAGCDP AGVHPPR **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.** |
| Characteristics: | Key Benefits:<br>• Made to order protein - from design to production - by highly experienced protein experts.<br>• Protein expressed in mammalien cells and purified in one-step affinity chromatography<br>• The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.<br><br>If you are not interested in a full length protein, please contact us for individual protein fragments.<br><br>The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified. |
| Purity: | > 90 % as determined by Bis-Tris Page, Western Blot |
| Grade: | custom-made |

## Target Details

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| Target: | NSUN2 |
| Alternative Name: | NSUN2 (NSUN2 Products) |
| Background: | RNA cytosine C(5)-methyltransferase NSUN2 (EC 2.1.1.-) (Myc-induced SUN domain-containing protein) (Misu) (NOL1/NOP2/Sun domain family member 2) (Substrate of AIM1/Aurora kinase B) (mRNA cytosine C(5)-methyltransferase) (EC 2.1.1.-) (tRNA cytosine C(5)-methyltransferase) (EC 2.1.1.-, EC 2.1.1.203) (tRNA methyltransferase 4 homolog) (hTrm4),FUNCTION: RNA cytosine C(5)-methyltransferase that methylates cytosine to 5-methylcytosine (m5C) in various RNAs, such as tRNAs, mRNAs and some long non-coding RNAs (lncRNAs) (PubMed:17071714, PubMed:22995836, PubMed:31358969, PubMed:31199786). Involved in various processes, such as epidermal stem cell differentiation, testis differentiation and maternal to zygotic |

## Target Details

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| | transition during early development: acts by increasing protein synthesis, cytosine C(5)-methylation promoting tRNA stability and preventing mRNA decay (PubMed:31199786). 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 (PubMed:17071714, PubMed:22995836, PubMed:31199786). tRNA methylation is required generation of RNA fragments derived from tRNAs (tRFs) (PubMed:31199786). Also mediates C(5)-methylation of mitochondrial tRNAs (PubMed:31276587). Catalyzes cytosine C(5)-methylation of mRNAs, leading to stabilize them and prevent mRNA decay: mRNA stabilization involves YBX1 that specifically recognizes and binds m5C-modified transcripts (PubMed:22395603, PubMed:31358969, PubMed:34556860). Cytosine C(5)-methylation of mRNAs also regulates mRNA export: methylated transcripts are specifically recognized by THOC4/ALYREF, which mediates mRNA nucleo-cytoplasmic shuttling (PubMed:28418038). Also mediates cytosine C(5)-methylation of non-coding RNAs, such as vault RNAs (vtRNAs), promoting their processing into regulatory small RNAs (PubMed:23871666). Cytosine C(5)-methylation of vtRNA VTRNA1.1 promotes its processing into small-vault RNA4 (svRNA4) and regulates epidermal differentiation (PubMed:31186410). May act downstream of Myc to regulate epidermal cell growth and proliferation (By similarity). Required for proper spindle assembly and chromosome segregation, independently of its methyltransferase activity (PubMed:19596847). {ECO:0000250\|UniProtKB:Q1HFZ0, ECO:0000269\|PubMed:17071714, ECO:0000269\|PubMed:19596847, ECO:0000269\|PubMed:22395603, ECO:0000269\|PubMed:22995836, ECO:0000269\|PubMed:23871666, ECO:0000269\|PubMed:28418038, ECO:0000269\|PubMed:31186410, ECO:0000269\|PubMed:31199786, ECO:0000269\|PubMed:31276587, ECO:0000269\|PubMed:31358969, ECO:0000269\|PubMed:34556860}. |
| Molecular Weight: | 86.5 kDa |
| UniProt: | Q08J23 |

## Application Details

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| Application Notes: | In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Buffer: | The buffer composition is at the discretion of the manufacturer. |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | 12 months |