

NSUN2 Antibody



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	100	Rabbit	#Q08J23	54888

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. *Do not aliquot the antibody.*

Specificity/Sensitivity

NSUN2 Antibody recognizes endogenous levels of total NSUN2 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val690 of human NSUN2 protein. Antibodies are purified by peptide affinity chromatography.

Background

Chemical modifications of RNA regulate many cellular processes. One particular RNA modification, 5-methylcytosine (5-mC), regulates ribosome assembly, translation, and RNA stability (1). In eukaryotes, this modification is added to RNA by the DNA methyltransferase homologue 2 protein (DNMT2; also known as TRDMT1), and also by members of the NOL1/NOP2/SUN domain (NSUN) family of proteins. NSUN proteins are putative S-adenosylmethionine (SAM)-dependent methyltransferases that carry out their enzymatic activity by utilizing two cysteine residues in their active sites (2). There are currently seven known members of this family, consisting of NOP2 (NSUN1) and NSUN2-7.

NSUN2 is an 86 kDa member of the NSUN family that is predominantly localized to the nucleus and methylates a variety of tRNAs and other RNA substrates (3). NSUN2 has been found to play a role in the methylation of pre-tRNA^{Leu}, tRNA^{Gly}, tRNA^{Val}, tRNA^{Leu}, and tRNA^{Asp} (1,4,5). It has also been found to methylate mRNAs and several ncRNAs, such as vtRNAs (6-8). Elevated NSUN2 protein levels have been reported in multiple types of human cancers, including breast, prostate, kidney, bladder, and liver, among others (9). The methyltransferase activity of NSUN2 is reduced upon Aurora B kinase-mediated phosphorylation at Ser139 (10), and there is potential for NSUN2 to be used as a therapeutic target or diagnostic marker for Aurora B linked cancers (9).

Background References

- Trixl, L. and Lusser, A. (2019) *Wiley Interdiscip Rev RNA* 10, e1510.
- Bohnsack, K.E. et al. (2019) *Genes (Basel)* 10, pii: E102. doi: 10.3390/genes10020102.
- Bourgeois, G. et al. (2015) *PLoS One* 10, e0133321.
- Brzezicha, B. et al. (2006) *Nucleic Acids Res* 34, 6034-43.
- Tuorto, F. et al. (2012) *Nat Struct Mol Biol* 19, 900-5.
- Tang, H. et al. (2015) *Aging (Albany NY)* 7, 1143-58.
- Xing, J. et al. (2015) *Mol Cell Biol* 35, 4043-52.
- Hussain, S. et al. (2013) *Cell Rep* 4, 255-61.
- Okamoto, M. et al. (2012) *DNA Cell Biol* 31, 660-71.
- Sakita-Suto, S. et al. (2007) *Mol Biol Cell* 18, 1107-17.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.