

NOP2 (E-7): sc-398884

BACKGROUND

The nucleolus consists of a number of specific proteins that play a critical role in the assembly of ribosomes, as well as in the maintenance and structural integrity of the nucleolus. NOP2 (NOL1/NSUN1/Sun domain family, member 1), also known as NOL1, p120, NOP120, or nucleolar protein 1, is an 812 amino acid nucleolar protein belonging to the methyltransferase superfamily. It is expressed in the G₁ phase of the cell cycle and peaks during the early S phase. Considered a ribosomal RNA methyltransferase, NOP2 may be involved in regulating the cell cycle and in increasing nucleolar activity that is associated with cell proliferation. NOP2 is a possible marker for proliferation in neoplastic cells and in several cancer cells. Two isoforms exist due to alternative splicing events.

REFERENCES

1. Henríquez, R., et al. 1990. Isolation and sequencing of NOP1. A yeast gene encoding a nucleolar protein homologous to a human autoimmune antigen. *J. Biol. Chem.* 265: 2209-2215.
2. Baens, M., et al. 1994. Assignment of the gene for the human proliferating cell nucleolar protein P120 (NOL1) to chromosome 12p13 by fluorescence *in situ* hybridization and polymerase chain reaction with somatic cell hybrids. *Genomics* 21: 296-297.
3. Bocker, T., et al. 1995. *In vitro* and *ex vivo* expression of nucleolar proteins B23 and p120 in benign and malignant epithelial lesions of the prostate. *Mod. Pathol.* 8: 226-231.

CHROMOSOMAL LOCATION

Genetic locus: NOP2 (human) mapping to 12p13.31; Nop2 (mouse) mapping to 6 F2.

SOURCE

NOP2 (E-7) is a mouse monoclonal antibody raised against amino acids 241-389 mapping within an internal region of NOP2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398884 X, 200 µg/0.1 ml.

NOP2 (E-7) is available conjugated to agarose (sc-398884 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398884 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398884 PE), fluorescein (sc-398884 FITC), Alexa Fluor[®] 488 (sc-398884 AF488), Alexa Fluor[®] 546 (sc-398884 AF546), Alexa Fluor[®] 594 (sc-398884 AF594) or Alexa Fluor[®] 647 (sc-398884 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398884 AF680) or Alexa Fluor[®] 790 (sc-398884 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

NOP2 (E-7) is recommended for detection of NOP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

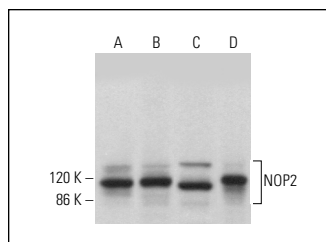
Suitable for use as control antibody for NOP2 siRNA (h): sc-75962, NOP2 siRNA (m): sc-75963, NOP2 shRNA Plasmid (h): sc-75962-SH, NOP2 shRNA Plasmid (m): sc-75963-SH, NOP2 shRNA (h) Lentiviral Particles: sc-75962-V and NOP2 shRNA (m) Lentiviral Particles: sc-75963-V

NOP2 (E-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

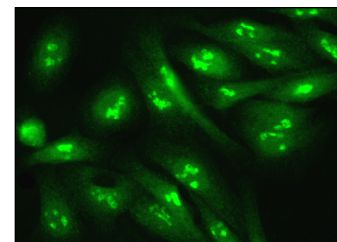
Molecular Weight of NOP2: 89 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, MCF7 nuclear extract: sc-2149 or MDA-MB-435S whole cell lysate: sc-364184.

DATA



NOP2 (E-7): sc-398884. Western blot analysis of NOP2 expression in MDA-MB-435S (A), MCF7 (B) and KNRK (C) whole cell lysates and MCF7 nuclear extract (D).



NOP2 (E-7): sc-398884. Immunofluorescence staining of formalin-fixed SW480 cells showing nucleolar, nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Kong, W., et al. 2020. Nucleolar protein NOP2/NSUN1 suppresses HIV-1 transcription and promotes viral latency by competing with Tat for TAR binding and methylation. *PLoS Pathog.* 16: e1008430.
2. Bi, G., et al. 2021. Knockdown of GTF2E2 inhibits the growth and progression of lung adenocarcinoma via RPS4X *in vitro* and *in vivo*. *Cancer Cell Int.* 21: 181.
3. Gong, Y., et al. 2021. Age-associated proteomic signatures and potential clinically actionable targets of colorectal cancer. *Mol. Cell. Proteomics* 20: 100115.
4. Božić, J., et al. 2021. Interactome screening of C9orf72 dipeptide repeats reveals VCP sequestration and functional impairment by polyGA. *Brain*. E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.