SANTA CRUZ BIOTECHNOLOGY, INC.

Nop10 (6H6): sc-517170

BACKGROUND

Nop10, also known as NOLA3 (nucleolar protein family A member 3), is a 64 amino acid protein that localizes to the nucleolus, as well as to cajal bodies, and exists as a component of the multi-protein H/ACA small nucleolar ribonucleoprotein (H/ACA snoRNP) complex. Working in tandem with other members of the H/ACA snoRNP complex, Nop10 plays an essential role in telomere maintenance and ribosome biogenesis and is also thought to be required for the proper processing and trafficking of the TERT (telomerase reverse transcriptase) holoenzyme. Defects in the gene encoding Nop10 are the cause of dyskeratosis congenita autosomal recessive (ARDKC), a rare and progressive bone marrow failure syndrome that is characterized by reticulated skin hyperpigmentation, nail dystrophy and mucosal leukoplakia.

REFERENCES

1. Henras, A., Henry, Y., Bousquet-Antonelli, C., Noaillac-Depeyre, J., Gelugne, J.P. and Caizergues-Ferrer, M. 1998. Nhp2p and Nop10p are essential for the function of H/ACA snoRNPs. EMBO J. 17: 7078-7090.
2. Pogaci, V., Dragon, F. and Filipowicz, W. 2000. Human H/ACA small nucle-olar RNPs and telomerase share evolutionarily conserved proteins NHP2 and Nop10. Mol. Cell. Biol. 20: 9028-9040.
3. Wang, C. and Meier, U.T. 2004. Architecture and assembly of mammalian H/ACA small nucleolar and telomerase ribonucleoproteins. EMBO J. 23: 1857-1867.
4. Yamaguchi, H., Calado, R.T., Ly, H., Kajigaya, S., Baerlocher, G.M., Chanock, S.J., Lansdorp, P.M. and Young, N.S. 2005. Mutations in TERT, the gene for telomerase reverse transcriptase, in aplastic anemia. N. Engl. J. Med. 352: 1413-1424.
5. Hoareau-Aveilla, C., Bonoli, M., Caizergues-Ferrer, M. and Henry, Y. 2006. hNaf1 is required for accumulation of human box H/ACA snoRNPs, scaRNPs, and telomerase. RNA 12: 832-840.
6. Walne, A.J., Vulliamy, T., Marrone, A., Beswick, R., Kirwan, M., Masunari, Y., Al-Qurashi, F.H., Aljurf, M. and Dokal, I. 2007. Genetic heterogeneity in autosomal recessive dyskeratosis congenita with one subtype due to mu-ta-tions in the telomerase-associated protein Nop10. Hum. Mol. Genet. 16: 1619-1629.
7. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 606471. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: NOP10 (human) mapping to 15q14; Nop10 (mouse) mapping to 2 E3.

SOURCE

Nop10 (6H6) is a mouse monoclonal antibody raised against amino acids 1-64 representing partial length Nop10 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Nop10 (6H6) is recommended for detection of Nop10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

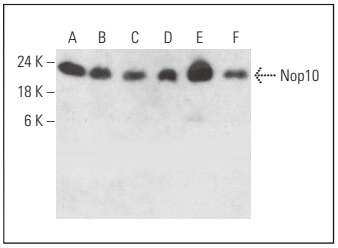
Suitable for use as control antibody for Nop10 siRNA (h): sc-90082, Nop10 siRNA (m): sc-106308, Nop10 shRNA Plasmid (h): sc-90082-SH, Nop10 shRNA Plasmid (m): sc-106308-SH, Nop10 shRNA (h) Lentiviral Particles: sc-90082-V and Nop10 shRNA (m) Lentiviral Particles: sc-106308-V.

Molecular Weight of Nop10: 8 kDa.

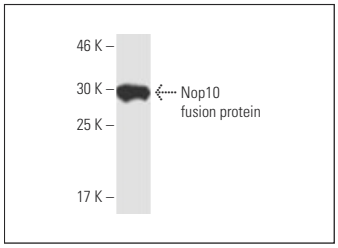
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunopre-cipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Nop10 (6H6): sc-517170. Western blot analysis of Nop10 expression in HuT 78 (**A**), Caco-2 (**B**), U-937 (**C**), Jurkat (**D**), TK-1 (**E**) and ES-D3 (**F**) whole cell lysates.



Nop10 (6H6): sc-517170. Western blot analysis of human recombinant Nop10 fusion protein.

SELECT PRODUCT CITATIONS

1. Han, C., Sun, L.Y., Luo, X.Q., Pan, Q., Sun, Y.M., Zeng, Z.C., Chen, T.Q., Huang, W., Fang, K., Wang, W.T. and Chen, Y.Q. 2022. Chromatin-associated orphan snoRNA regulates DNA damage-mediated differentiation via a non-canonical complex. Cell Rep. 38: 110421.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.