

NAF1 (N-16): sc-243570

BACKGROUND

NAF1 (nuclear assembly factor 1), also known as H/ACA ribonucleoprotein complex non-core subunit NAF1 or hNAF1, is a 494 amino acid RNA-binding protein belonging to the NAF1 family. Encoded by a gene that maps to human chromosome 4q32.2, NAF1 associates with mature RNA in cell lysates and is essential for ribosome biogenesis, premessenger RNA splicing, stable RNA accumulation, maturation of box snoRNP complexes and telomere maintenance. NAF1 mobilizes at the site of transcription where it binds to and escorts the core protein Dyskerin between the nucleus and cytoplasm. NAF1 is replaced by GAR1, which binds competitively with NAF1, resulting in mature RNPs in Cajal bodies and nucleoli. NAF1 delocalizes to the cytoplasm during overexpression but NAF1 shuttling properties continue to be operative. Dyskeratosis congenita mutations in human telomerase RNA may affect NAF1 assembly function.

REFERENCES

1. Dez, C., Noaillac-Depeyre, J., Caizergues-Ferrer, M. and Henry, Y. 2002. Naf1p, an essential nucleoplasmic factor specifically required for accumulation of box H/ACA small nucleolar RNPs. *Mol. Cell. Biol.* 22: 7053-7065.
2. Wang, C. and Meier, U.T. 2004. Architecture and assembly of mammalian H/ACA small nucleolar and telomerase ribonucleoproteins. *EMBO J.* 23: 1857-1867.
3. Yang, P.K., Hoareau, C., Froment, C., Monsarrat, B., Henry, Y. and Chanfreau, G. 2005. Cotranscriptional recruitment of the pseudouridyl-synthetase Cbf5p and of the RNA binding protein Naf1p during H/ACA snoRNP assembly. *Mol. Cell. Biol.* 25: 3295-3304.
4. Darzacq, X., Kittur, N., Roy, S., Shav-Tal, Y., Singer, R.H. and Meier, U.T. 2006. Stepwise RNP assembly at the site of H/ACA RNA transcription in human cells. *J. Cell Biol.* 173: 207-218.
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. Kittur, N., Darzacq, X., Roy, S., Singer, R.H. and Meier, U.T. 2006. Dynamic association and localization of human H/ACA RNP proteins. *RNA* 12: 2057-2062.
7. Trahan, C. and Dragon, F. 2009. Dyskeratosis congenita mutations in the H/ACA domain of human telomerase RNA affect its assembly into a pre-RNP. *RNA* 15: 235-243.
8. Grozdanov, P.N., Roy, S., Kittur, N. and Meier, U.T. 2009. SHQ1 is required prior to NAF1 for assembly of H/ACA small nucleolar and telomerase RNPs. *RNA* 15: 1188-1197.
9. Venteicher, A.S., Abreu, E.B., Meng, Z., McCann, K.E., Terns, R.M., Veenstra, T.D., Terns, M.P. and Artandi, S.E. 2009. A human telomerase holoenzyme protein required for Cajal body localization and telomere synthesis. *Science* 323: 644-648.

CHROMOSOMAL LOCATION

Genetic locus: NAF1 (human) mapping to 4q32.2.

SOURCE

NAF1 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NAF1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-243570 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

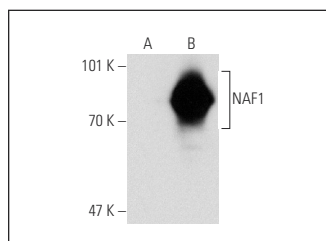
NAF1 (N-16) is recommended for detection of NAF1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NAF1 siRNA (h): sc-89243, NAF1 shRNA Plasmid (h): sc-89243-SH and NAF1 shRNA (h) Lentiviral Particles: sc-89243-V.

Molecular Weight of NAF1: 75 kDa.

Positive Controls: NAF1 (h): 293T Lysate: sc-110703.

DATA



NAF1 (N-16): sc-243570. Western blot analysis of NAF1 expression in non-transfected: sc-117752 (A) and human NAF1 transfected: sc-110703 (B) 293T whole cell lysates.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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