

CNOT7 (18W): sc-101009

BACKGROUND

CNOT7 (CCR4-NOT transcription complex, subunit 7), also known as CAF1 (CCR4-associated factor 1), hCAF-1 or BTG1-binding factor 1, is a member of the CAF1 family. Localizing to the nucleus, CNOT7 is ubiquitously expressed and is believed to function as a transcription factor, playing a role in a wide variety of processes. CNOT7 functions as a component of the evolutionarily conserved CCR4-NOT complex, a multi-subunit complex that participates in transcription as well as mRNA degradation. CNOT7 and other subunits of the CCR4-NOT complex play a role in the regulation of nuclear hormone receptor activities. CNOT7 directly binds to and interacts with RXR β , TOB1, TOB2, BTG1, BTG2 and BTG3. In addition, CNOT7 knockout mice are sterile and show an increase in bone mass, suggesting an important role for CNOT7 in spermatogenesis and as a suppressor of bone mass and BMP (bone morphogenetic protein) actions in osteoblasts.

REFERENCES

1. Yoshida, Y., et al. 2001. Association of ANA, a member of the antiproliferative Tob family proteins, with a Caf1 component of the CCR4 transcriptional regulatory complex. *Jpn. J. Cancer Res.* 92: 592-596.
2. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 6049132. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CNOT7 (human) mapping to 8p22; Cnot7 (mouse) mapping to 8 A4.

SOURCE

CNOT7 (18W) is a mouse monoclonal antibody raised against a full-length recombinant protein mapping within amino acids 1-285 of CNOT7 of human origin.

PRODUCT

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

APPLICATIONS

CNOT7 (18W) is recommended for detection of CNOT7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 CNOT7 siRNA (h): sc-72946, CNOT7 siRNA (m): sc-72947, CNOT7 shRNA Plasmid (h): sc-72946-SH, CNOT7 shRNA Plasmid (m): sc-72947-SH, CNOT7 shRNA (h) Lentiviral Particles: sc-72946-V and CNOT7 shRNA (m) Lentiviral Particles: sc-72947-V.

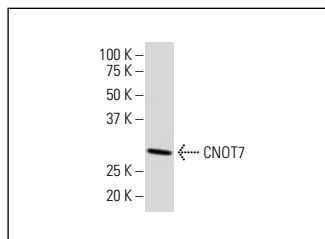
Molecular Weight of CNOT7: 33 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

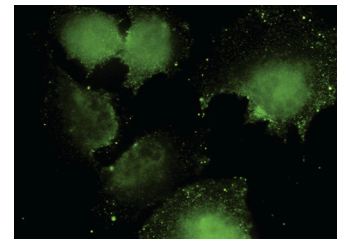
STORAGE

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

DATA



CNOT7 (18W): sc-101009. Western blot analysis of CNOT7 expression in HeLa whole cell lysate.



CNOT7 (18W): sc-101009. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Gou, L.T., et al. 2014. Pachytene piRNAs instruct massive mRNA elimination during late spermiogenesis. *Cell Res.* 24: 680-700.
2. Wang, X., et al. 2014. N⁶-methyladenosine-dependent regulation of messenger RNA stability. *Nature* 505: 117-120.
3. Shi, J.X., et al. 2014. CNOT7/hCAF1 is involved in ICAM-1 and IL-8 regulation by tristetraprolin. *Cell. Signal.* 26: 2390-2396.
4. Rambout, X., et al. 2016. The transcription factor ERG recruits CCR4-NOT to control mRNA decay and mitotic progression. *Nat. Struct. Mol. Biol.* 23: 663-672.
5. Shi, J.X., et al. 2016. CAF1-knockout mice are more susceptible to lipopolysaccharide-induced acute lung injury. *J. Inflamm. Res.* 9: 115-121.
6. Masumura, Y., et al. 2016. Btg2 is a negative regulator of cardiomyocyte hypertrophy through a decrease in cytosolic RNA. *Sci. Rep.* 6: 28592.
7. Yamaji, M., et al. 2017. DND1 maintains germline stem cells via recruitment of the CCR4-NOT complex to target mRNAs. *Nature* 543: 568-572.
8. Sha, Q.Q., et al. 2017. A MAPK cascade couples maternal mRNA translation and degradation to meiotic cell cycle progression in mouse oocytes. *Development* 144: 452-463.
9. Shi, J.X., et al. 2018. CNOT1 is involved in TTP-mediated ICAM-1 and IL-8 mRNA decay. *Mol. Med. Rep.* 18: 2321-2327.
10. Slobodin, B., et al. 2020. Transcription dynamics regulate poly(A) tails and expression of the RNA degradation machinery to balance mRNA levels. *Mol. Cell* 78: 434-444.e5.
11. Song, P., et al. 2022. CNOT6: a novel regulator of DNA mismatch repair. *Cells* 11: 521.

RESEARCH USE

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