SANTA CRUZ BIOTECHNOLOGY, INC.

CNOT7 (18W): sc-101009

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 RXRβ, 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 µg 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 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 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.

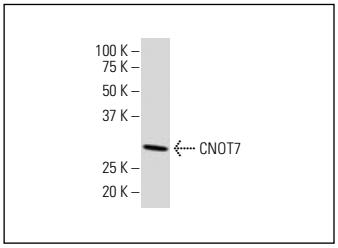
Molecular Weight of CNOT7: 33 kDa.

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

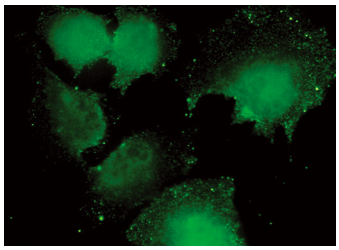
STORAGE

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. N^6-methyladenosine-dependent regulation of messenger RNA stability. Nature 505: 117-120.
3. 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.
4. Shi, J.X., et al. 2016. CAF1-knockout mice are more susceptive to lipopolysaccharide-induced acute lung injury. J. Inflamm. Res. 9: 115-121.
5. Masumura, Y., et al. 2016. Btg2 is a negative regulator of cardiomyocyte hypertrophy through a decrease in cytosolic RNA. Sci. Rep. 6: 28592.
6. Yamaji, M., et al. 2017. DND1 maintains germline stem cells via recruitment of the CCR4-NOT complex to target mRNAs. Nature 543: 568-572.
7. 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.
8. 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.
9. 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.
10. Song, P., et al. 2022. CNOT6: a novel regulator of DNA mismatch repair. Cells 11: 521.
11. Shi, X., et al. 2024. Building a translational cancer dependency map for the cancer genome atlas. Nat. Cancer 5: 1176-1194.

RESEARCH USE

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