SANTA CRUZ BIOTECHNOLOGY, INC.

C1D (C-17): sc-100965

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

C1D, also known as SUNCOR, is a nuclear DNA-binding protein that localizes to the nucleus and cytoplasm and participates in processing of the 5.8S rRNA. Expressed ubiquitously with highest expression in thyroid, salivary gland, hippocampus and medulla oblongata, C1D forms a multi-protein complex with MPP6 (M phase phosphoprotein 6) and EXOSC10 (exosome component 10). This complex is responsible, in part, for recruiting the exosome to pre-rRNA and it functions to mediate 3'-5' rRNA processing. Additionally, C1D can induce transcriptional repression and apoptosis through interaction with Rev-erbα (V-erbA-related protein EAR-1)/TRβ (thyroid hormone receptor β) and p53, respectively. C1D, a 141 amino acid protein, is also implicated in DNA repair mechanisms, as well as DNA-PK (DNA-dependent protein kinase) activation.

REFERENCES

1. Zamir, I., Dawson, J., Lavinsky, R.M., Glass, C.K., Rosenfeld, M.G. and Lazar, M.A. 1997. Cloning and characterization of a corepressor and potential component of the nuclear hormone receptor repression complex. Proc. Natl. Acad. Sci. USA 94: 14400-14405.
2. Yavuzer, U., Smith, G.C., Bliss, T., Werner, D. and Jackson, S.P. 1998. DNA end-independent activation of DNA-PK mediated via association with the DNA-binding protein C1D. Genes Dev. 12: 2188-2199.
3. Haataja, L., Groffen, J. and Heisterkamp, N. 1998. Identification of a novel Rac3-interacting protein C1D. Int. J. Mol. Med. 1: 665-670.
4. Rothbarth, K., Spiess, E., Juodka, B., Yavuzer, U., Nehls, P., Stammer, H. and Werner, D. 1999. Induction of apoptosis by overexpression of the DNA-binding and DNA-PK-activating protein C1D. J. Cell Sci. 112: 2223-2232.
5. Rothbarth, K., Hunziker, A., Stammer, H. and Werner, D. 2001. Promoter of the gene encoding the 16 kDa DNA-binding and apoptosis-inducing C1D protein. Biochim. Biophys. Acta 1518: 271-275.
6. Erdemir, T., Bilican, B., Oncel, D., Goding, C.R. and Yavuzer, U. 2002. DNA damage-dependent interaction of the nuclear matrix protein C1D with translin-associated factor X (TRAX). J. Cell Sci. 115: 207-216.
7. Mitchell, P., Petfalski, E., Houalla, R., Podtelejnikov, A., Mann, M. and Tollervey, D. 2003. Rrp47p is an exosome-associated protein required for the 3' processing of stable RNAs. Mol. Cell. Biol. 23: 6982-6992.
8. Chen, E.S., Sutani, T. and Yanagida, M. 2004. Cti1/C1D interacts with condensin SMC hinge and supports the DNA repair function of condensin. Proc. Natl. Acad. Sci. USA 101: 8078-8083.
9. Schilders, G., van Dijk, E. and Pruijn, G.J. 2007. C1D and hMtr4p associate with the human exosome subunit PM/Scl-100 and are involved in pre-rRNA processing. Nucleic Acids Res. 35: 2564-2572.

CHROMOSOMAL LOCATION

Genetic locus: C1D (human) mapping to 2p13-p12.

STORAGE

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

SOURCE

C1D (C-17) is a mouse monoclonal antibody raised against recombinant C1D of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} in 500 µl of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

C1D (C-17) is recommended for detection of C1D of 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 C1D siRNA (h): sc-94710, C1D shRNA Plasmid (h): sc-94710-SH and C1D shRNA (h) Lentiviral Particles: sc-94710-V.

Molecular Weight of C1D: 16 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.