SANTA CRUZ BIOTECHNOLOGY, INC.

C23 (D-6): sc-17826

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

C23 (nucleolin, NCL) is a eukaryotic nucleolar phosphoprotein that influences synthesis and maturation of ribosomes. C23 localizes to dense fibrillar regions of the nucleolus. It contains four RNA binding domains that interact with pre-rRNA during synthesis. C23 can influence RNA processing, ribosomal gene transcription and nucleolar targeting of ribosomal components. It is known to associate with a variety of proteins, including the nucleolar protein B23. Phosphorylation by Cdc2 and casein kinase II causes translocation of C23 from the nucleolus to the cytoplasm. Mitotic phosphorylated forms of Bcl-2 are present in nuclear structures in prophase HeLa cells together with C23 and Ki-67. Retinoic acid-induced apoptosis leads to C23 downregulation and Bcl-2 mRNA instability. C23 binds the human telomerase reverse transcriptase subunit (hTERT) through interactions with its RNA binding domain 4 and carboxyl-terminal RGG domain, and this interaction is critical for the nucleolar localization of human TERT.

CHROMOSOMAL LOCATION

Genetic locus: NCL (human) mapping to 2q37.1.

SOURCE

C23 (D-6) is a mouse monoclonal antibody raised against amino acids 271-520 of C23 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

C23 (D-6) is available conjugated to agarose (sc-17826 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17826 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17826 PE), fluorescein (sc-17826 FITC), Alexa Fluor® 488 (sc-17826 AF488), Alexa Fluor® 546 (sc-17826 AF546), Alexa Fluor® 594 (sc-17826 AF594) or Alexa Fluor® 647 (sc-17826 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17826 AF680) or Alexa Fluor® 790 (sc-17826 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

C23 (D-6) is recommended for detection of C23 of human and monkey origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:5,000), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for C23 siRNA (h): sc-29230, C23 shRNA Plasmid (h): sc-29230-SH and C23 shRNA (h) Lentiviral Particles: sc-29230-V.

Molecular Weight of C23: 110 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, Jurkat nuclear extract: sc-2132 or Raji whole cell lysate: sc-364236.

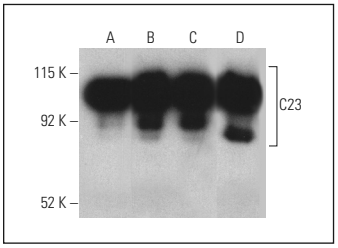
RESEARCH USE

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

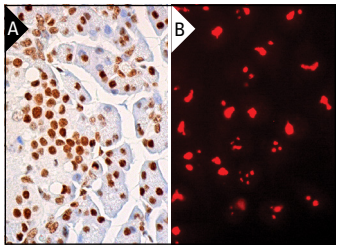
STORAGE

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

DATA



C23 (D-6) HRP: sc-17826 HRP. Direct western blot analysis of C23 expression in Raji (**A**), MOLT-4 (**B**) and CCRF-CEM (**C**) whole cell lysates and Jurkat nuclear extract (**D**).



C23 (D-6): sc-17826. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear staining of exocrine glandular cells and Islets of Langerhans (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar localization (**B**).

SELECT PRODUCT CITATIONS

1. Barboric, M., et al. 2005. Interplay between 7SK snRNA and oppositely charged regions in HEXIM1 direct the inhibition of p-TEFβ. EMBO J. 24: 4291-4303.
2. Hoja-Łukowicz, D., et al. 2014. The lectin-binding pattern of nucleolin and its interaction with endogenous galectin-3. Cell. Mol. Biol. Lett. 19: 461-482.
3. Hong, J., et al. 2016. Telomerase activates transcription of cyclin D1 gene through the interaction with NOL1. J. Cell Sci. 129: 1566-1579.
4. Ueshima, S., et al. 2017. Internal associations of the acidic region of upstream binding factor control its nucleolar localization. Mol. Cell. Biol. 37: e00218-17.
5. Tse, L.V., et al. 2018. Mapping and engineering functional domains of the assembly activating protein of adeno-associated viruses. J. Virol. 92: e00393-18.
6. Jia, Y., et al. 2019. The tumor-suppressive function of miR-1296-5p by targeting EGFR and CDK6 in gastric cancer. Biosci. Rep. 39: BSR20181556.
7. Hanamshet, K., et al. 2020. The function of RAD52 N-terminal domain is essential for viability of BRCA-deficient cells. Nucleic Acids Res. 48: 12778-12791.
8. Hirawake-Mogi, H., et al. 2021. G-patch domain-containing protein 4 localizes to both the nucleoli and Cajal bodies and regulates cell growth and nucleolar structure. Biochem. Biophys. Res. Commun. 559: 99-105.

PROTOCOLS

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