SANTA CRUZ BIOTECHNOLOGY, INC.

C23 (H-6): sc-55486

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 (TERT) 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; Ncl (mouse) mapping to 1 D.

SOURCE

C23 (H-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 (H-6) is available conjugated to agarose (sc-55486 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55486 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55486 PE), fluorescein (sc-55486 FITC), Alexa Fluor® 488 (sc-55486 AF488), Alexa Fluor® 546 (sc-55486 AF546), Alexa Fluor® 594 (sc-55486 AF594) or Alexa Fluor® 647 (sc-55486 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55486 AF680) or Alexa Fluor® 790 (sc-55486 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

C23 (H-6) is recommended for detection of C23 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 C23 siRNA (h): sc-29230, C23 siRNA (m): sc-29231, C23 shRNA Plasmid (h): sc-29230-SH, C23 shRNA Plasmid (m): sc-29231-SH, C23 shRNA (h) Lentiviral Particles: sc-29230-V and C23 shRNA (m) Lentiviral Particles: sc-29231-V.

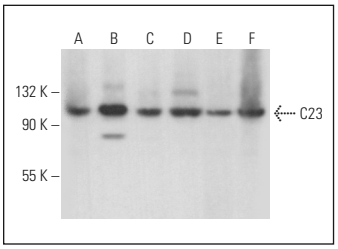
Molecular Weight of C23: 110 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, NIH/3T3 whole cell lysate: sc-2210 or SH-SY5Y cell lysate: sc-3812.

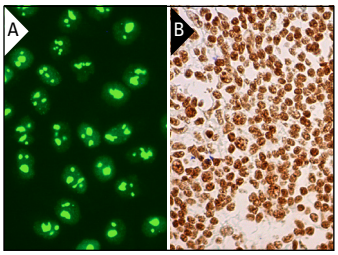
STORAGE

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

DATA



C23 (H-6): sc-55486. Western blot analysis of C23 expression in SH-SY5Y (**A**), PC-3 (**B**), NIH/3T3 (**C**), RAW 264.7 (**D**) and PC-12 (**E**) whole cell lysates and KNRK nuclear extract (**F**).



C23 (H-6): sc-55486. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (**B**).

SELECT PRODUCT CITATIONS

1. Solakidi, S., et al. 2007. Differential distribution of glucocorticoid and estrogen receptor isoforms: localization of GRβ and ERα in nucleoli and GRα and ERβ in the mitochondria of human osteosarcoma SaOS-2 and hepatocarcinoma Hep G2 cell lines. J. Musculoskelet. Neuronal Interact. 7: 240-245.
2. Aries, A., et al. 2014. Caspase-1 cleavage of transcription factor GATA4 and regulation of cardiac cell fate. Cell Death Dis. 5: e1566.
3. Feng, D., et al. 2015. Multiple effects of curcumin on promoting expression of the exon 7-containing SMN2 transcript. Genes Nutr. 10: 40.
4. Pirlot, C., et al. 2016. Melanoma antigen-D2: a nucleolar protein undergoing delocalization during cell cycle and after cellular stress. Biochim. Biophys. Acta 1863: 581-595.
5. Shen, Y., et al. 2017. Nuclear retention of the lncRNA SNHG1 by doxorubicin attenuates hnRNPC-p53 protein interactions. EMBO Rep. 18: 536-548.
6. Gowda, P., et al. 2018. Mutant IDH1 disrupts PKM2-β-catenin-BRG1 transcriptional network driven CD47 expression. Mol. Cell. Biol. 38: e00001-18.
7. Gomez, G.N., et al. 2019. SARS coronavirus protein nsp1 disrupts localization of Nup93 from the nuclear pore complex. Biochem. Cell Biol. 97: 758-766.
8. Houston, R., et al. 2020. Acetylation-mediated remodeling of the nucleolus regulates cellular acetyl-CoA responses. PLoS Biol. 18: e3000981.
9. Vester, S.K., et al. 2021. Nucleolin acts as the receptor for C1QTNF4 and supports C1QTNF4-mediated innate immunity modulation. J. Biol. Chem. 296: 100374.

RESEARCH USE

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