

C23 (C-2): sc-515312



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 down-regulation 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 (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 589-610 within an internal region 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.

Blocking peptide available for competition studies, sc-515312 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

C23 (C-2) 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); non cross-reactive with mouse C23.

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: K-562 whole cell lysate: sc-2203, HeLa nuclear extract: sc-2120 or Jurkat nuclear extract: sc-2132.

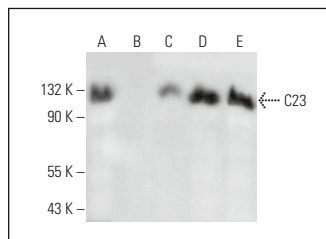
RESEARCH USE

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

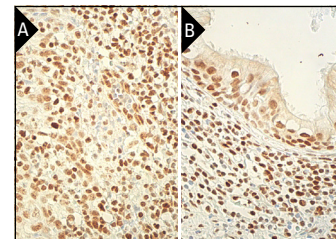
STORAGE

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

DATA



C23 (C-2): sc-515312. Western blot analysis of C23 expression in K-562 (A), NIH/3T3 (B) and HEK293T (C) whole cell lysates and HeLa (D) and Jurkat (E) nuclear extracts. Note lack of reactivity with mouse C32 in lane B.



C23 (Nucleolin) (C-2): sc-515312. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing nuclear staining of respiratory epithelial cells (B). Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgG Fc BP-B: sc-533652 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Bacigalupo, I., et al. 2017. Inhibition of MMP-9 expression by ritonavir or saquinavir is associated with inactivation of the AKT/Fra-1 pathway in cervical intraepithelial neoplasia cells. *Oncol. Lett.* 13: 2903-2908.
2. Terol, M., et al. 2017. HBZ-mediated shift of JunD from growth suppressor to tumor promoter in leukemic cells by inhibition of ribosomal protein S25 expression. *Leukemia* 31: 2235-2243.
3. Enguita, M., et al. 2019. The cirrhotic liver is depleted of docosahexaenoic acid (DHA), a key modulator of NFκB and TGFβ pathways in hepatic stellate cells. *Cell Death Dis.* 10: 14.
4. Sun, D. 2019. Chromatin immunoprecipitation assay to analyze the effect of G-quadruplex interactive agents on the binding of RNA polymerase II and transcription factors to a target promoter region. *Methods Mol. Biol.* 2035: 233-242.

PROTOCOLS

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

CONJUGATES

See **C23 (MS-3): sc-8031** for C23 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.