

# C23 (D-6): sc-17826



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<sub>2a</sub> 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.

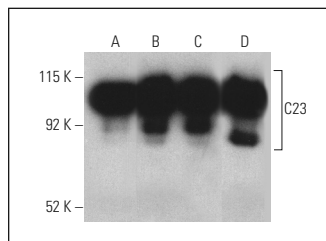
## RESEARCH USE

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

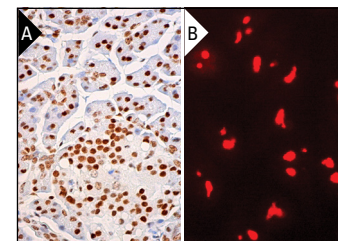
## STORAGE

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

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- 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.
- 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.
- 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.
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- 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](http://www.scbt.com) for detailed protocols and support products.

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