

C23 (F-18): sc-9893

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 hTERT.

REFERENCES

1. Lischwe, M.A., et al. 1981. Localization of phosphoprotein C23 to nucleolar structures and to the nucleolus organizer regions. *Exp. Cell Res.* 136: 101-109.
2. Lapeyre, B., et al. 1986. Protein and cDNA sequence of a glycine-rich, dimethylarginine-containing region located near the carboxyl-terminal end of nucleolin (C23 and 100 kDa). *J. Biol. Chem.* 261: 9167-9173.
3. Egyhazi, E., et al. 1988. Effects of anti-C23 (nucleolin) antibody on transcription of ribosomal DNA in *Chironomus* salivary gland cells. *Exp. Cell Res.* 178: 264-272.
4. Belenguer, P., et al. 1990. Mitosis-specific phosphorylation of nucleolin by p34Cdc2 protein kinase. *Mol. Cell. Biol.* 10: 3607-3618.

CHROMOSOMAL LOCATION

Genetic locus: NCL (human) mapping to 2q37.1; Ncl (mouse) mapping to 1 D.

SOURCE

C23 (F-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of C23 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9893 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

C23 (F-18) is recommended for detection of C23 of mouse, rat and 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), 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).

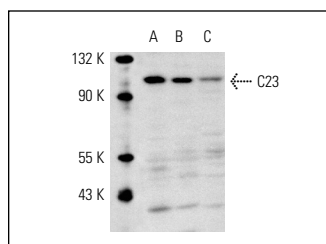
C23 (F-18) is also recommended for detection of C23 in additional species, including equine, canine, bovine and porcine.

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.

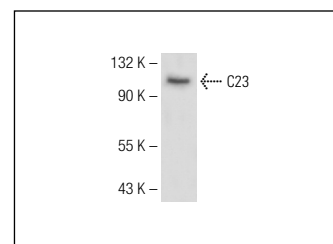
Molecular Weight of C23: 110 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

DATA



C23 (F-18): sc-9893. Western blot analysis of C23 expression in CCRF-CEM (A), K-562 (B) and NIH/3T3 (C) whole cell lysates.



C23 (F-18): sc-9893. Western blot analysis of C23 expression in Jurkat nuclear extract.

SELECT PRODUCT CITATIONS

1. Ullas, K.S., et al. 2003. Phosphorylation of rat spermatid protein TP2 by sperm-specific protein kinase A and modulation of its transport into the haploid nucleus. *J. Biol. Chem.* 278: 52673-52680.
2. Zhu, P., et al. 2006. Granzyme A, which causes single-stranded DNA damage, targets the double-strand break repair protein Ku-70. *EMBO Rep.* 7: 431-437.
3. Henke, E., et al. 2008. Peptide-conjugated antisense oligonucleotides for targeted inhibition of a transcriptional regulator *in vivo*. *Nat. Biotechnol.* 26: 91-100.



Try **C23 (MS-3): sc-8031** or **C23 (D-6): sc-17826**, our highly recommended monoclonal alternatives to C23 (F-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **C23 (MS-3): sc-8031**.