SANTA CRUZ BIOTECHNOLOGY, INC.

Nucleolar Marker (31C4): sc-57947

BACKGROUND

The nucleolus, which lies within the nucleus, is the site of the production and assembly of ribosome components. It is also responsible for trafficking various prominent small RNA species during their maturation process and facilitating the route to their final cellular destination. The nucleolus may also have a role in cell cycle regulation, regulation of tumor suppressor and oncogene activities, signal recognition particle assembly, modification of small RNA strands, and control of aging and modulating telomerase function. The nucleolus, which is roughly spherical, is surrounded by a layer of condensed chromatin; it is not separated from the nucleoplasm by any type of membrane. The nucleolus is made up of fibrillar centers (FC), dense fibrillar components (DFC), granular components (GC) and ribosomal DNA. It contains unique proteins that may function as markers in nucleolar research applications.

REFERENCES

1. Loseva, M.I., Levitan, N.V., Degtiareva, M.M. and Panacheva, L.A. 1991. Prognostic significance of nucleolar markers in chronic lymphocytic leukemia. Gematol. Transfuziol. 35: 22-24.
2. Austin, K.M., Leary, R.J. and Shimamura, A. 2005. The Shwachman-Diamond SBDS protein localizes to the nucleolus. Blood 106: 1253-1258.
3. Shaw, P. and Doonan, J. 2005. The nucleolus. Playing by different rules? Cell Cycle 4: 102-105.
4. Olson, M.O. and Dundr, M. 2005. The moving parts of the nucleolus. Histochem. Cell Biol. 123: 203-216.
5. Sato, S., Yano, H., Makimoto, Y., Kaneta, T. and Sato, Y. 2005. Nucleolonema as a fundamental substructure of the nucleolus. J. Plant Res. 118: 71-81.
6. Lo, S.J., Lee, C.C. and Lai, H.J. 2006. The nucleolus: reviewing oldies to have new understandings. Cell Res. 16: 530-538.
7. Hinsby, A.M., Kiemer, L., Karlberg, E.O., Lage, K., Fausboll, A., Juncker, A.S., Andersen, J.S., Mann, M. and Brunak, S. 2006. A wiring of the human nucleolus. Mol. Cell 22: 285-295.
8. Raska, I., Shaw, P.J. and Cmarko, D. 2006. Structure and function of the nucleolus in the spotlight. Curr. Opin. Cell Biol. 18: 325-334.

SOURCE

Nucleolar Marker (31C4) is a mouse monoclonal antibody raised against a nuclear preparation of *S. cerevisiae* origin.

PRODUCT

Each vial contains 250 µl culture supernatant containing IgG with PBS and < 0.1% sodium azide.

PROTOCOLS

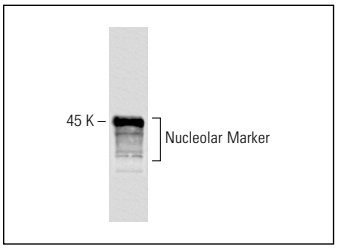
See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Nucleolar Marker (31C4) is recommended for detection of Nucleolar Marker of *S. cerevisiae* origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:500-1:2500), immunoprecipitation [10-20 µl per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution to be determined by researcher, dilution range 1:100-1:2500).

Positive Controls: yeast cell extract.

DATA



Nucleolar Marker (31C4): sc-57947. Western blot analysis of Nucleolar Marker expression in yeast cell extract.

SELECT PRODUCT CITATIONS

1. Stepinski, D. 2009. Immunodetection of nucleolar proteins and ultrastructure of nucleoli of soybean root meristematic cells treated with chilling stress and after recovery. Protoplasma 235: 77-89.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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