

c-Myc (h3): 293T Lysate: sc-110502

BACKGROUND

c-Myc-, N-Myc- and L-Myc-encoded proteins function in cell proliferation, differentiation and neoplastic disease. They are located in the nucleus and have relatively short half lives. Amplification of the c-Myc gene has been found in several types of human tumors including lung, breast and colon carcinomas. The presence of a leucine zipper, the helix-loop-helix and a basic region in the c-Myc COOH terminus provided initial evidence for a sequence-specific binding function. A basic region helix-loop-helix leucine zipper motif protein, called Max, specifically associates with c-Myc, N-Myc and L-Myc. The Myc-Max complex binds to DNA in a sequence-specific. Max can also form heterodimers with at least two additional bHLH-Zip proteins, Mad and Mxi1, and Mad-Max dimers have been shown to repress transcription through interaction with mSin3.

REFERENCES

- Alitalo, K., Schwab, M., Lin, C.C., Varmus, H.E. and Bishop, M. 1983. Homogeneously staining chromosomal regions contain amplified copies of an abundantly expressed cellular oncogene (c-Myc) in malignant neuroendocrine cells from a human colon carcinoma. *Proc. Natl. Acad. Sci. USA* 80: 1707-1711.
- Nau, M.N., Brooks, B.J., Battey, J., Sausville, E., Gazdar, A.F., Kirsch, I.R., McBride, O.W., Bertness, V., Hollis, G.F. and Minna, J.D. 1985. L-Myc, a new Myc-related gene amplified and expressed in human small cell lung cancer. *Nature* 318: 69-73.
- Nisen, P.D., Zimmerman, K.A., Cotter, S.V., Gilbert, F. and Alt, F.W. 1986. Enhanced expression of the N-Myc gene in Wilms' tumors. *Cancer Res.* 46: 6217-6222.
- Blackwood E.M. and Eisenman, R.N. 1991. Max: a helix-loop-helix zipper protein that forms a sequence-specific DNA-binding complex with Myc. *Science* 251: 1211-1217.
- Mukherjee, B., Morgenbesser, S.D. and DePinho, R.A. 1992. Myc family oncoproteins function through a common pathway to transform normal cells in culture: cross-reference by Max and *trans*-acting dominant mutants. *Genes Dev.* 6: 1480-1492.
- Amati, B., Dalton, S., Brooks, M.W., Littlewood, T.D., Evan, G.I. and Land, H. 1992. Transcriptional activation by the human c-Myc oncoprotein in yeast requires interaction with Max. *Nature* 359: 423-426.
- Ayer, D.E., Lawrence, Q.A. and Eisenman, R.N. 1995. Mad-Max transcriptional repression is mediated by ternary complex formation with mammalian homologs of yeast repressor Sin3. *Cell* 80: 767-776.
- Sumi, T., Tsuneyoshi, N., Nakatsuji, N. and Suemori H. 2007. Apoptosis and differentiation of human embryonic stem cells induced by sustained activation of c-Myc. *Oncogene* 26: 5564-5576.
- Sansom, O.J., Meniel, V.S., Muncan, V., Pheese, T.J., Wilkins, J.A., Reed, K.R., Vass, J.K., Athineos, D., Clevers, H. and Clarke, A.R. 2007. Myc deletion rescues APC deficiency in the small intestine. *Nature* 446: 676-679.

CHROMOSOMAL LOCATION

Genetic locus: MYC (human) mapping to 8q24.21.

PRODUCT

c-Myc (h3): 293T Lysate represents a lysate of human c-Myc transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

c-Myc (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive c-Myc antibodies. Recommended use: 10-20 µl per lane.

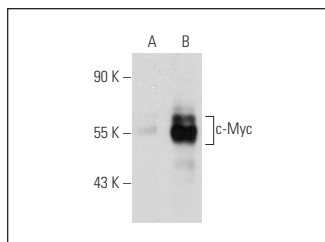
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

c-Myc (C-33): sc-42 is recommended as a positive control antibody for Western Blot analysis of enhanced human c-Myc expression in c-Myc transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



c-Myc (C-33): sc-42. Western blot analysis of c-Myc expression in non-transfected: sc-117752 (A) and human c-Myc transfected: sc-110502 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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