

c-Myc (3C118): sc-70465

BACKGROUND

c-Myc-, N-Myc- and L-Myc-encoded proteins function in cell proliferation, differentiation and neoplastic disease. Myc proteins are nuclear proteins with 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 while the N-Myc gene has been found amplified in neuroblastomas. The L-Myc gene has been reported to be amplified and expressed at high level in human small cell lung carcinomas. The presence of three sequence motifs in the c-Myc COOH terminus, including the leucine zipper, the helix-loop-helix and a basic region, provided initial evidence for a sequence-specific binding function. A basic region helix-loop-helix leucine zipper motif (bHLH-Zip) protein, designated Max, specifically associates with c-Myc, N-Myc and L-Myc proteins. The Myc-Max complex binds to DNA in a sequence-specific manner under conditions where neither Max nor Myc exhibits appreciable binding. 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., et al. 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., et al. 1985. L-Myc, a new Myc-related gene amplified and expressed in human small cell lung cancer. *Nature* 318: 69-73.
- Nisen, P.D., et al. 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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: MYC (human) mapping to 8q24.21; Myc (mouse) mapping to 15 D1.

SOURCE

c-Myc (3C118) is a mouse monoclonal antibody epitope corresponding to amino acids 408-439 within the C-terminal domain of c-Myc of human origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin conjugate for flow cytometry, sc-70461 PE, 100 tests, agarose conjugate for immunoprecipitation, sc-70461 AC, 500 µg/0.25 ml agarose in 1 ml., HRP conjugate for Western blotting, sc-70461 HRP, 200 µg/1 ml., fluorescein (sc-70461 FITC) or rhodamine (sc-70461 TRITC) conjugates for immunofluorescence, 200 µg/1 ml. and as biotin conjugate, sc-70461 B, 200 µg/1 ml.

APPLICATIONS

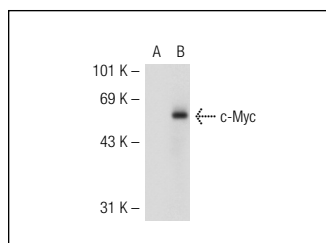
c-Myc (3C118) is recommended for detection of c-Myc p67 and c-Myc tagged fusion proteins of mouse, rat, human and monkey origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with N-Myc or L-Myc proteins. Widely used in combination with eukaryotic expression vectors encoding proteins with c-Myc (amino acids 408-439) epitope tag.

Suitable for use as control antibody for c-Myc siRNA (h): sc-29226, c-Myc siRNA (m): sc-29227, c-Myc shRNA Plasmid (h): sc-29226-SH, c-Myc shRNA Plasmid (m): sc-29227-SH, c-Myc shRNA (h) Lentiviral Particles: sc-29226-V and c-Myc shRNA (m) Lentiviral Particles: sc-29227-V.

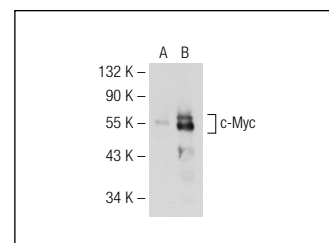
Molecular Weight of c-Myc: 67 kDa.

Positive Controls: c-Myc (h2): 293T Lysate: sc-116671, Jurkat nuclear extract: sc-2132 or K-562 whole cell lysate: sc-2203.

DATA



c-Myc (3C118): sc-70465. Western blot analysis of c-Myc expression in non-transfected: sc-117752 (A) and human c-Myc transfected: sc-116671 (B) 293T whole cell lysates.



c-Myc (3C118): sc-70465. 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.

SELECT PRODUCT CITATIONS

- Di Tomaso, T., et al. 2010. Immunobiological characterization of cancer stem cells isolated from glioblastoma patients. *Clin. Cancer Res.* 16: 800-813.

RESEARCH USE

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