SANTA CRUZ BIOTECHNOLOGY, INC.

p-c-Myc (C-3): sc-377551

The Power to Question

BACKGROUND

c-Myc-, N-Myc- and L-Myc-encoded proteins function in cell proliferation, differentiation and neoplastic disease. Amplification of the c-Myc gene has been found in several types of human tumors including lung, breast and colon 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 1 and Mxi1, and Mad 1-Max dimers have been shown to repress transcription through interaction with mSin3.

REFERENCES

1. 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.
2. 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.
3. Nisen, P.D., et al. 1986. Enhanced expression of the N-Myc gene in Wilms' tumors. Cancer Res. 46: 6217-6222.
4. Blackwood E.M. and Eisenman, R.N. 1991. Max: a helix-loop-helix zipper protein that forms a sequence-specificDNA-binding complex with Myc. Science 251: 1211-1217.
5. 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.
6. Amati, B., et al. 1992. Transcriptional activation by the human c-Myc oncoprotein in yeast requires interaction with Max. Nature 359: 423-426.

CHROMOSOMAL LOCATION

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

SOURCE

p-c-Myc (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 67-83 of c-Myc of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377551 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-377551 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-c-Myc (C-3) is recommended for detection of Thr 58 and Ser 62 dually phosphorylated c-Myc of broad species origin by Western Blotting (starting dilution 1:100, 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).

p-c-Myc (C-3) is also recommended for detection of correspondingly phosphorylated c-Myc in additional species, including bovine.

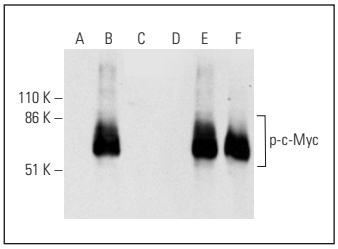
Suitable for use as control antibody for c-Myc siRNA (h): sc-29226, c-Myc siRNA (m): sc-29227, c-Myc siRNA (r): sc-270149, c-Myc shRNA Plasmid (h): sc-29226-SH, c-Myc shRNA Plasmid (m): sc-29227-SH, c-Myc shRNA Plasmid (r): sc-270149-SH, c-Myc shRNA (h) Lentiviral Particles: sc-29226-V, c-Myc shRNA (m) Lentiviral Particles: sc-29227-V and c-Myc shRNA (r) Lentiviral Particles: sc-270149-V.

p-c-Myc (C-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

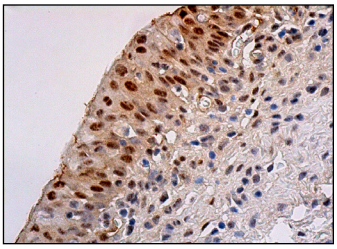
Molecular Weight of p-c-Myc: 67 kDa.

Positive Controls: c-Myc (m): 293T Lysate: sc-118892.

DATA



Western blot analysis of c-Myc phosphorylation in non-transfected: sc-117752 (**A**,**D**), untreated mouse c-Myc transfected: sc-118892 (**B**,**E**) and lambda protein phosphatase (sc-200312A) treated mouse c-Myc transfected: sc-118892 (**C**,**F**) 293T whole cell lysates. Antibodies tested include p-c-Myc (C-3): sc-377551 (**A**,**B**,**C**) and c-Myc (N-262): sc-764 (**D**,**E**,**F**).



p-c-Myc (C-3): sc-377551. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. Archer, T.C., et al. 2018. Proteomics, post-translational modifications, and integrative analyses reveal molecular heterogeneity within medulloblastoma subgroups. Cancer Cell 34: 396-410.e8.

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.