SANTA CRUZ BIOTECHNOLOGY, INC.

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



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

- 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.
- 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.
- 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

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 μ g lgG₁ 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 μ g/0.1 ml.

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

RESEARCH USE

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

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 μ g per 100-500 μ g 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 Thr 58 and Ser 62 dually 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.) 2931 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

- Kim, D.H., et al. 2014. Phosphorylation of cyclin O, a novel cyclin family protein containing a cyclin-like domain, is involved in the activation of cyclin-dependent kinase 2. Oncol. Lett. 8: 2769-2775.
- 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, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.