SANTA CRUZ BIOTECHNOLOGY, INC.

p-c-Myc (Thr 58/Ser 62)-R: sc-8000-R

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 C-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 exhibit 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-c-Myc (Thr 58/Ser 62)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Thr 58 and Ser 62 phosphorylated c-Myc of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8000 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-c-Myc (Thr 58/Ser 62)-R is recommended for detection of Thr 58 and Ser 62 dually phosphorylated c-Myc of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-c-Myc (Thr 58/Ser62)-R is also recommended for detection of correspondingly phosphorylated c-Myc in additional species, including equine, canine, bovine and porcine.

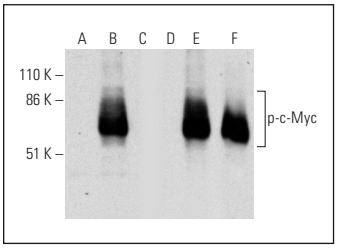
Suitable for use as control antibody for c-Myc siRNA (h): sc-29226, c-Myc siRNA (m): sc-29227, c-Myc shRNA Plasmid (h): sc-29226-SH, c-Myc shRNA Plasmid (m): sc-29227-SH, c-Myc shRNA (h) Lentiviral Particles: sc-29226-V and c-Myc shRNA (m) Lentiviral Particles: sc-29227-V.

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

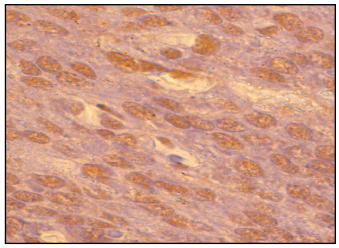
STORAGE

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

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 (Thr 58/Ser 62)-R: sc-8000-R (**A**,**B**,**C**) and c-Myc (N-262): sc-764 (**D**,**E**,**F**).



p-c-Myc (Thr 58/Ser 62)-R: sc-8000-R. Immunoperoxidase staining of formalin-fixed, paraffin-embedded mouse uterus tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Liu, J., et al. 2004. Serine-threonine kinases and transcription factors active in signal transduction are detected at high levels of phosphorylation during mitosis in preimplantation embryos and trophoblast stem cells. Reproduction 128: 643-654.
2. Newman, D.R., et al. 2004. Heparin affects signaling pathways stimulated by fibroblast growth factor-1 and -2 in type II cells. Am. J. Physiol. Lung Cell. Mol. Physiol. 287: L191-L200.
3. Marampon, F., et al. 2009. MEK/ERK inhibitor U0126 affects *in vitro* and *in vivo* growth of embryonal rhabdomyosarcoma. Mol. Cancer Ther. 8: 543-551.
4. Yeh, P.Y., et al. 2011. IκB kinases increase Myc protein stability and enhance progression of breast cancer cells. Mol. Cancer 10: 53.
5. De Salvo, M., et al. 2011. Temozolomide induced c-Myc-mediated apoptosis via Akt signalling in MGMT expressing glioblastoma cells. Int. J. Radiat. Biol. 87: 518-533.
6. Davis, H., et al. 2014. Investigation of the atypical FBXW7 mutation spectrum in human tumours by conditional expression of a heterozygous propellor tip missense allele in the mouse intestines. Gut 63: 792-799.

RESEARCH USE

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