

N-Myc (H-50): sc-22835

BACKGROUND

The v-Myc oncogene, initially identified in the MC29 avian retrovirus, causes myelocytomas, carcinomas, sarcomas and lymphomas, and belongs to a family of oncogenes conserved throughout evolution. In humans, the family consists of five genes: c-Myc, N-Myc, R-Myc, L-Myc and B-Myc. Amplification of the N-Myc gene has been found in human neuroblastomas and cell lines. The extent of N-Myc amplification correlates well with the stage of neuroblastoma disease. Immunological studies have shown that the human N-Myc gene encodes a nuclear phosphoprotein of 67 kDa that exhibits relatively short (30 min) half life *in vivo*. The prototype member of the family, c-Myc p67, binds DNA in a sequence-specific manner subsequent to dimerization with a second basic region helix-loop-helix leucine zipper motif protein, designated Max.

REFERENCES

- Schwab, M., et al. 1983. Amplified DNA with limited homology to Myc cellular oncogene is shared by human neuroblastoma cell lines and a neuroblastoma tumor. *Nature* 305: 245-248.
- Brodeur, G.M., et al. 1984. Amplification of N-Myc in untreated human neuroblastomas correlates with advanced disease stage. *Science* 224: 1121-1124.
- Cole, M.D. 1986. The Myc oncogene: its role in transformation and differentiation. *Annu. Rev. Gen.* 20: 361-384.
- LeGouy, E., et al. 1987. Structure and expression of Myc family genes. *Nuclear Oncogenes*, NY: Cold Spring Harbor Laboratory, 144-151.
- 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.
- Prendergast, G.C., et al. 1991. Association of Myn, the murine homolog of Max, with c-Myc stimulates methylation-sensitive DNA binding and Ras cotransformation. *Cell* 65: 395-407.
- Bossone, S.A., et al. 1992. MAZ, a zinc finger protein, binds to c-Myc and C2 gene sequences regulating transcriptional initiation and termination. *Proc. Natl. Acad. Sci. USA* 89: 7452-7456.

CHROMOSOMAL LOCATION

Genetic locus: MYCN (human) mapping to 2p24.3.

SOURCE

N-Myc (H-50) is a rabbit polyclonal antibody raised against amino acids 136-185 of N-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.

STORAGE

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

APPLICATIONS

N-Myc (H-50) is recommended for detection of N-Myc of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for N-Myc siRNA (h): sc-36003, N-Myc shRNA Plasmid (h): sc-36003-SH and N-Myc shRNA (h) Lentiviral Particles: sc-36003-V.

Molecular Weight of N-Myc: 67 kDa.

Positive Controls: SW480 cell lysate: sc-2219, CCRF-HSB-2 cell lysate: sc-2265 or H4 cell lysate: sc-2408.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Fang, J., et al. 2006. The H⁺-linked monocarboxylate transporter (MCT1/SLC16A1): a potential therapeutic target for high-risk neuroblastoma. *Mol. Pharmacol.* 70: 2108-2115.
- Sanchez-Arévalo Lobo, V.J., et al. 2013. Dual regulation of Myc by Abl. *Oncogene*. E-published.

RESEARCH USE

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

PROTOCOLS

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