SANTA CRUZ BIOTECHNOLOGY, INC.

N-Myc (NMYC-1): sc-80546

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 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

1. 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.
2. Brodeur, G.M., et al. 1984. Amplification of N-Myc in untreated human neuroblastomas correlates with advanced disease stage. Science 224: 1121-1124.
3. Cole, M.D. 1986. The Myc oncogene: its role in transformation and differentiation. Annu. Rev. Genet. 20: 361-384.
4. LeGouy, E., et al. 1987. Structure and expression of Myc-family genes. In Harlow, E., Alt, F.W. and Ziff, E., eds., Nuclear Oncogenes. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory, 144-151.
5. 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.
6. 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.
7. 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.
8. Beierle, E.A., et al. 2007. N-Myc regulates focal adhesion kinase expression in human neuroblastoma. J. Biol. Chem. 282: 12503-12516.

CHROMOSOMAL LOCATION

Genetic locus: MYCN (human) mapping to 2p24.3; Nmyc1 (mouse) mapping to 12 A1.1.

SOURCE

N-Myc (NMYC-1) is a mouse monoclonal antibody epitope mapping at residues 327-339 of N-Myc p67 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

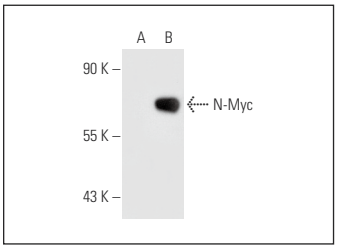
N-Myc (NMYC-1) is recommended for detection of N-Myc p67 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for N-Myc siRNA (h): sc-36003, N-Myc siRNA (m): sc-38087, N-Myc shRNA Plasmid (h): sc-36003-SH, N-Myc shRNA Plasmid (m): sc-38087-SH, N-Myc shRNA (h) Lentiviral Particles: sc-36003-V and N-Myc shRNA (m) Lentiviral Particles: sc-38087-V.

Molecular Weight of N-Myc: 67 kDa.

Positive Controls: N-Myc (m): 293T Lysate: sc-121906, CCRF-HSB-2 cell lysate: sc-2265 or H4 cell lysate: sc-2408.

DATA



N-Myc (NMYC-1): sc-80546. Western blot analysis of N-Myc expression in non-transfected: sc-117752 (**A**) and mouse N-Myc transfected: sc-121906 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Petragnano, F., et al. 2020. Clinically relevant radioresistant rhabdomyosarcoma cell lines: functional, molecular and immune-related characterization. J. Biomed. Sci. 27: 90.
2. Sendra, M., et al. 2023. Cre recombinase microinjection for single-cell tracing and localised gene targeting. Development 150: dev201206.

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.