

N-Myc (D4B2Y) Rabbit mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP, IHC-P, ChIP, ChIP-seq	Reactivity: H M	Sensitivity: Endogenous	MW (kDa): 62	Source/Isotype: Rabbit IgG	UniProt ID: #P04198	Entrez-Gene Id: 4613
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Product Usage Information

For optimal ChIP and ChIP-seq results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10⁶ cells) per IP. This antibody has been validated using SimpleChIP[®] Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:200
Immunohistochemistry (Paraffin)	1:320 - 1:1280
Chromatin IP	1:50
Chromatin IP-seq	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #69006.

Specificity/Sensitivity

N-Myc (D4B2Y) Rabbit mAb recognizes endogenous levels of total N-Myc protein.

Species predicted to react based on 100% sequence homology

Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly38 of human N-Myc protein.

Background

Members of the Myc/Max/Mad network function as transcriptional regulators with roles in various aspects of cell behavior, including proliferation, differentiation, and apoptosis (1). These proteins share a common basic-helix-loop-helix leucine zipper (bHLH-ZIP) motif required for dimerization and DNA-binding. Max was originally discovered based on its ability to associate with c-Myc and found to be required for the ability of Myc to bind DNA and activate transcription (2). Subsequently, Max has been viewed as a central component of the transcriptional network, forming homodimers as well as heterodimers with other members of the Myc and Mad families (1). The association between Max and either Myc or Mad can have opposing effects on transcriptional regulation and cell behavior (1). The Mad family consists of four related proteins; Mad1, Mad2 (Mxi1), Mad3, and Mad4, and the more distantly related members of the bHLH-ZIP family, Mnt and Mga. Like Myc, the Mad proteins are tightly regulated with short half-lives. In general, Mad family members interfere with Myc-mediated processes, such as proliferation, transformation, and prevention of apoptosis by inhibiting transcription (3,4).

In humans the Myc family consists of 5 genes: c-Myc, N-Myc, L-Myc, R-Myc, and B-Myc. While c-Myc is expressed in many proliferating cells, N-Myc expression is very restricted, with highest levels during embryonic development and in the adult during B-cell development. The expression patterns and results from targeted deletion of N-Myc suggest that N-Myc plays an important role in tissue development and differentiation (5). In addition, amplification or overexpression of N-Myc has been found in human neuroblastomas and is associated with rapid progression and poor prognosis (6,7).

Background References

1. Baudino, T.A. and Cleveland, J.L. (2001) *Mol Cell Biol* 21, 691-702.
2. Blackwood, E.M. and Eisenman, R.N. (1991) *Science* 251, 1211-7.
3. Henriksson, M. and Lüscher, B. (1996) *Adv Cancer Res* 68, 109-82.
4. Grandori, C. et al. (2000) *Annu Rev Cell Dev Biol* 16, 653-99.
5. Sawai, S. et al. (1993) *Development* 117, 1445-55.
6. Schwab, M. et al. (1984) *Proc Natl Acad Sci U S A* 81, 4940-4.
7. Brodeur, G.M. et al. (1984) *Science* 224, 1121-4.

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	W: Western Blotting IP: Immunoprecipitation IHC-P: Immunohistochemistry (Paraffin) ChIP: Chromatin IP ChIP-seq: Chromatin IP-seq
Cross-Reactivity Key	H: Human M: Mouse
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