Revision 1

Store at -20C

#9405

# N-Myc Antibody

Cell Signaling TECHNOLOGY®

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

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W | H | Endogenous | 62 | Rabbit | #P04198 | 4613 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |

## Storage

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

## Specificity/Sensitivity

N-Myc Antibody detects endogenous levels human N-Myc and transfected levels of mouse N-Myc. It does not cross-react with other Myc family members.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding lysine 351 of human N-Myc. Antibodies were purified by protein A and peptide affinity chromatography.

## 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 in during embryonic development and then in the adult during B-cell development. These 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, 1445-1455.
6. Schwab, M. et al. (1984) *Proc. Natl. Acad. Sci. USA* 81, 4940-4944.
7. Brodeur, G.M. et al. (1984) *Science* 224, 1121-1124.

## 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

## Cross-Reactivity Key

**H:** Human

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