Leinco Technologies, Inc.
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Human cMyc Antibody

Biotin

Hybridoma Monoclonal Antibody

Product Information

Product No.: C591

Clone: 9E10

Isotype: Mouse IgG1 κ

Storage: Sterile 2° to 8°C

Product Description

Specificity:
9E10 activity is directed against human c-Myc and can cross-react with denatured murine c-Myc in some circumstances.

Antigen Distribution:
c-Myc is ubiquitously expressed during tissue development and in a wide variety of tumors. c-Myc is often studied in embryonic stem cells and induced pluripotent stem cells. c-Myc is mainly associated with cell nuclei.

Background:
c-Myc is an essential transcription factor that belongs to the superfamily of basic helix-loop- helix DNA-binding proteins that function in normal embryogenesis, acquisition and maintenance of stem cell properties, metabolism, cellular division, and cell death[1, 2]. c-Myc is also a proto-oncogene, originally identified in Burkitt lymphoma[1]. Its dysregulation, by mutation or epigenetic modification, has been observed in over 50% of human cancers[3]. c-Myc regulates various cancer cellular functions, including cell cycle, survival, proliferation, and metabolic reprogramming[1], and is associated with tumor aggression and chemoresistance[3]. c-Myc has been suggested as a target for cancer immunotherapy[2] and various methods of inhibition have been studied[1, 2, 3].

9E10 was generated by immunizing a BALB/c mouse with a synthetic peptide corresponding to residues 408-432 of human c-Myc conjugated to keyhole limpet hemocyanin via the cysteine residues[4]. Splenocytes were fused with SP2 myeloma cells. 9E10 failed to immunoprecipitate protein from Colo 320 HSR cell extracts during screening but did detect c-Myc in Western blotting. The 9E10 epitope has become a well-known affinity tag used in recombinant protein expression, i.e., the myc-tag[5]. The target epitope is the C terminal EQKLISEEDL peptide with the core sequence being LISE[5] and the crystal structure and binding mode have been solved[6]. 9E10 detection has highly variable epitope recognition that is dependent on neighboring sequence context[7]. Additionally, cross-reactivity of 9E10 has been observed in murine cell lines in a fluorescence assay and by Western blotting[8].

Known Reactivity Species:
Epitope Tag

Format:
Biotin

Immunogen:
C-terminal region of human c-Myc

Formulation
This Biotinylated antibody is formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.4, 1% BSA and 0.09% sodium azide as a preservative.

Storage and Stability
This biotinylated antibody is stable when stored at 2-8°C.

Do Not Freeze

Other Applications Reported in Literature:
IHC,
IP,
IF,
WB,
ELISA,
FC

Country of Origin
USA

References
1) Yoshida GJ. J Exp Clin Cancer Res. Jul 27;37(1):173. 2018.
2) Llombart V, Mansour MR. EBioMedicine. 75:103756. 2022.
3) Fatma H, Maurya SK, Siddique HR. Semin Cancer Biol. 83:166-176. 2022.
4) Evan GI, Lewis GK, Ramsay G, et al. Mol Cell Biol. 5(12):3610-3616. 1985.
5) Hilpert K, Hansen G, Wessner H, et al. Protein Eng. 14(10):803-806. 2001.
6) Krauss N, Wessner H, Welfle K, et al. Proteins. 73(3):552-565. 2008.
7) Schüchner S, Behm C, Mudrak I, et al. Sci Signal. 28;13(616):eaax9730. 2020.
8) Siegel J, Brandner G, Hess RD. Int J Oncol. 13(6):1259-1262. 1998.
9) Varughese M, Chi A, Teixeira AV, et al. Mol Med. 4(2):87-95. 1998.
10) Fan H, Villegas C, Chan AK, et al. Biochem Cell Biol. 76(1):125-128. 1998.
11) Chan S, Gabra H, Hill F, et al. Mol Cell Probes. 1(1):73-82. 1987.
12) Porter MJ, Field JK, Leung SF, et al. Acta Otolaryngol. 114(1):105-109. 1994.
13) O'Leary JJ, Landers RJ, Crowley M, et al. J Clin Pathol. 50(11):896-903. 1997.
14) Feller K, Yang S, Tung N, et al. J Eur Acad Dermatol Venereol. 28(1):120-124. 2014.
15) Baker AM, Van Noorden S, Rodriguez-Justo M, et al. Histopathology. 69(2):222-229. 2016.