

Product Information

Anti-MNK1

produced in rabbit, affinity isolated antibody

Catalog Number **M3946**

Product Description

Anti-MNK1 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 12-27 of human Mnk1 (GeneID: 8569), conjugated to KLH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-MNK1 specifically recognizes human Mnk1. Applications include the detection of Mnk1 by immunoblotting (40 kDa). Staining of the Mnk1 band in immunoblotting is specifically inhibited by the immunizing peptide.

Mnk1 (MAP kinase-interacting kinase 1 also known as MKNK1) is a serine/threonine kinase first identified as a MAP kinase (MAPKs)-interacting protein that can be phosphorylated by the MAPKs.¹ It is a member of a subfamily which includes also Mnk2. Both are implicated in the regulation of protein synthesis through their phosphorylation of eukaryotic initiation factor 4E (eIF4E) on Ser²⁰⁹ in response to mitogens and cellular stress.^{2,3} eIF4E is a central component in the initiation and regulation of translation in eukaryotic cells. It regulates the recruitment of mRNAs to the ribosome.^{4,5} Phosphorylation of eIF4E by Mnks alters its affinity for capped mRNA.^{6,7} Mnk1 and Mnk2 are closely related but differ in their basal activity and regulation. Mnk2 shows a much higher activity in unstimulated cells than Mnk1, whose activity is greatly increased by stimulation of the MAPK pathway.³ The human Mnk1 gene has two C-terminal splice variants, designated Mnk1a and Mnk1b.⁸ The N- and C- termini of the splice variants determine their activity and localization. While Mnk1a is cytoplasmic, a substantial amount of Mnk1b is found in the nucleus.⁸ Mice in which the Mnk genes have been inactivated were viable, fertile and developed normally, although eIF4E was not phosphorylated.⁹ The Mnks have been identified as potential therapeutic targets for breast cancer treatments.¹⁰

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.4 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using lysates of HEK-293T cells transfected with human Mnk1.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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