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ProductInformation

Anti-eIF4ENIF1 (N-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **E6781**

Product Description

Anti-eIF4ENIF1 (N-terminal) is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 1-19 of human eIF4ENIF1 (GeneID: 56478), conjugated to KLH via a C-terminal added cysteine residue. This sequence is specific to human. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-eIF4ENIF1 (N-terminal) specifically recognizes human eIF4ENIF1. Applications include immunoblotting (140 kDa), immunoprecipitation, and immuno-fluorescence. Staining of eIF4ENIF1 in immunoblotting and immunofluorescence is specifically inhibited by the immunizing peptide.

Translation is a complex series of steps involving a wide array of protein translation factors that function in conjugation with the ribosome and tRNAs to decode an mRNA, thereby generating the encoded polypeptide chain. In general, the process can be divided into four steps: initiation, elongation, termination, and recycling. The translational factor eIF4E is the central component in the initiation and regulation of translation initiation in eukaryotic cells. Although mainly expressed in the cytoplasm, a fraction of eIF4E localizes to the nucleus, and some of the biological effects of eIF4E might be effected by a nuclear function.[1, 2] eIF4ENIF1 (also known as 4E-T or 4E-transporter) is a nucleocyto-plasmic shuttling protein responsible for the nuclear import of eIF4E via the importin α/β pathway.[3] Following the release from eIF4E in the nucleus, eIF4ENIF1 shuttles back to the cytoplasm. In the cytoplasm, eIF4ENIF1 colocalizes with other mRNA binding/processing proteins to P-bodies.[4, 5] The interaction of eIF4ENIF1 with eIF4E in the cytoplasm represses translation, which is believed to be a prerequisite for targeting of mRNAs to P-bodies. eIF4ENIF1 is likely to inhibit translation by competing with eIF4G for binding to eIF4E and preventing formation of the eIF4F complex.[4] Together with 4E-BPs, it participates in cell response to prolonged hypoxia, sequestering eIF4E, and affecting gene expression.[6]

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 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 HeLa cell lysates.

Immunopreciptiation: a working amount of 5-10 µL is recommended using HeLa cell lysates.

Indirect immunofluorescence: a working concentration of 5-10 µg/mL is recommended using paraformaldehyde-fixed HEK-293T cells.

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

References

1. Lejbkowicz, F., et al., *Proc. Natl. Acad. Sci. USA*, **89**, 9612-9616 (1992).
2. Strudwick, S., and Borden, K.L., *Differentiation*, **70**, 10-22 (2002).
3. Dostie, J., et al., *EMBO J.*, **19**, 3142-3156 (2000).
4. Ferraiuolo, M.A., et al., *J. Cell Biol.*, **170**, 913-924, (2005).

5. Andrei, M.A., et al., *RNA*, **11**, 717-727 (2005).

6. Koritzinsky, M., *EMBO J.,* **25**, 1114-1125 (2006).

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