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Product Information

Anti-eRF3a/GSPT1

produced in rabbit, affinity isolated antibody

Product Number **E4781**

Product Description

Anti-eRF3a/GSPT1 is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 190-204 of human eRF3a/GSPT1 (GeneID: 2935), conjugated to KLH via a C-terminal added cysteine residue. The sequence is conserved in human, rat, and mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-eRF3a/GSPT1 specifically recognizes human eRF3a/GSPT1. Applications include immunoprecipitation, immunoblotting (76.5 kDa), and immunocytology. Staining of the eRF3a/GSPT1 band in immunoblotting is specifically inhibited by the immunizing peptide.

In eukaryotes, two release factors, eRF1 and eRF3, are required to complete protein synthesis. eRF1 recognizes the stop codons and promotes the hydrolysis of the bond linking the polypeptide chain to the tRNA, thus releasing synthesized polypeptide chain from the ribosome. eRF3 does not recognize codons, but stimulates eRF1 activity. eRF3 is a GTPase that stimulates eRF1 activity in a GTP-dependent manner.^{1,2} In mammals, two genes encoding eRF3 structural homologues were identified and named eRF3a/GSPT1 and eRF3b/GSPT2.³ The name GSPT1 (G1 to S phase transition of the cell cycle) was given to eRF3 since it was also shown to be essential for the G1 to S phase transition. Its expression is proliferation dependent in human and mouse cells, and is maximally seen at the G1 to S phase of the cell cycle.^{3,4} Eukaryotic eRF3 gene products consist of two domains, a unique amino-terminal region and a conserved EF1 α -like carboxyl-terminal domain that is essential for the translation termination.³ In yeast, mouse eRF3b, but not mouse eRF3a, can substitute for eRF3.⁵ However, in mammalian cells, eRF3a is the major factor acting in translation termination.⁶ eRF3 may have other functions in the regulation of translation termination coupled events. It affects mRNA stability and translation initiation by interacting with Poly(A)-binding protein (PABP) and the surveillance factor Upf1.⁷⁻¹¹ eRF3a is proteolytically processed into an IAP (Inhibitors of Apoptosis Proteins)-binding protein.¹² Processed eRF3a interacts with IAPs and can promote caspase

activation, IAP ubiquitination and apoptosis. The IAP binding motif is exposed only after proteolytic cleavage of a 69-residue leader sequence.

Reagent

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

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 0.5-1 μ g/mL is determined using HeLa cell lysates.

Immunoprecipitation: 1-2 μ g of the antibody can immunoprecipitate eRF3a/GSPT1 from HeLa cell lysates.

Indirect immunofluorescence: a working concentration of 5-10 μ g/mL is determined using paraformaldehyde-fixed HeLa cells.

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

References

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YK,KAA,PHC 11/06-1

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