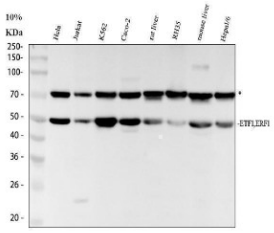
ETF1 Antibody / eRF1 Antibody (FY13496)

Catalog No.	Formulation	Size
FY13496	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen Affinity
Buffer	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
UniProt	P20132
Applications	Western Blot : 0.5-1ug/ml
Limitations	This ETF1 Antibody / eRF1 Antibody is available for research use only.



ETF1 Antibody Human, Rat and Mouse WB. Western blot analysis of human HeLa (lane 1), Jurkat (lane 2), K562 (lane 3), and Caco-2 (lane 4) whole cell lysates, rat liver (lane 5) and RH35 (lane 6), and mouse liver (lane 7) and HEPA1-6 (lane 8) lysates using ETF1 Antibody / eRF1 Antibody at 0.5 ug/ml. A specific band is detected at approximately 49 kDa in all samples, consistent with the predicted molecular weight of ETF1 (eRF1). An additional band at approximately 70 kDa is consistently observed across all samples; while its identity has not been established, the expected ETF1 band is clearly detected at approximately 49 kDa. This ETF1 Antibody, also called eRF1 Antibody, is suitable for studies of translation termination, ribosome function, protein synthesis, and translational fidelity.

Description

ETF1 Antibody / eRF1 Antibody recognizes ETF1, the gene encoding eRF1 (eukaryotic release factor 1), the essential class I translation termination factor responsible for recognizing all three stop codons during eukaryotic protein synthesis. eRF1 functions together with the GTPase eRF3 to terminate translation by promoting hydrolysis of the peptidyl-tRNA bond within the ribosome, releasing the completed polypeptide chain. Because eRF1 recognizes the UAA, UAG, and UGA stop codons, it serves as the universal translation release factor in eukaryotic cells and is indispensable for accurate protein synthesis and maintenance of translational fidelity.

eRF1 is composed of functional domains that mediate stop codon recognition, interaction with the ribosomal decoding center, and catalysis of peptide release. Following stop codon recognition, eRF1 cooperates with eRF3 to coordinate GTP hydrolysis and efficient translation termination before ribosome recycling begins. Beyond its canonical role, eRF1 also participates in mRNA quality control pathways, including nonsense-mediated decay, and helps prevent translational readthrough that could otherwise produce aberrant or extended proteins. Through these mechanisms, ETF1 contributes to cellular protein homeostasis and maintenance of the proteome.

ETF1 is ubiquitously expressed because translation termination is required in every actively translating cell. Altered eRF1 expression or activity has been associated with changes in translational accuracy, stress responses, viral protein synthesis, neurodegenerative disorders, and cancer. The protein has also become an important target in therapeutic strategies designed to manipulate premature stop codon readthrough for the treatment of inherited genetic diseases. As interest in translational control continues to expand, eRF1 remains a central molecule for understanding how protein synthesis is completed with high accuracy and efficiency.

An ETF1 Antibody is a valuable tool for investigating eRF1 expression, translation termination, and ribosome-associated protein complexes in cultured cells and tissue specimens. Researchers frequently use eRF1 Antibody reagents to study protein synthesis, translational fidelity, stop codon recognition, mRNA surveillance, ribosome biology, and mechanisms that regulate translation termination.

Explore our Cancer Marker Antibodies page for additional proteins involved in translational control, cellular growth, and tumor biology.

Application Notes

Optimal dilution of the ETF1 Antibody / eRF1 Antibody should be determined by the researcher.

Immunogen

E.coli-derived human Eukaryotic peptide chain release factor subunit 1 recombinant protein (amino acids D9-K342) was used as the immunogen for the ETF1 Antibody.

Storage

After reconstitution, the ETF1 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

ETF1 Antibody, eRF1 Antibody, Eukaryotic Translation Termination Factor 1 Antibody, Eukaryotic Peptide Chain Release Factor 1 Antibody