Recombinant ERF1 protein (His tag)

Catalog Number	542469
Synonyms	Eukaryotic release factor 1; eRF1; Protein Cl1; TB3-1
Species	Human
Expression System	E. coli
Accession	P62495
Molecular Weight	Predictes a molecular mass of 50.56 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 54 kDa band.

Product Information

Sequence Region	2-437
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 2-437 aa (P62495) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Eukaryotic peptide chain release factor subunit 1 (eRF1) fragment (amino acids 2-437) from Homo sapiens, designed for robust structural and biochemical studies. This high-purity, soluble protein enables investigation of translation termination mechanisms and stop codon recognition in eukaryotic systems. Eukaryotic peptide chain release factor subunit 1 (eRF1) is a critical component of the eRF1-eRF3-GTP ternary complex that mediates translation termination in response to stop codons. As part of this complex, eRF1 binds to stop codons in the ribosomal A-site and induces hydrolysis of peptidyl-tRNA, facilitating proper termination of protein synthesis. Following GTP hydrolysis by eRF3, eRF1 fully accommodates in the A-site to complete peptide release. Additionally, eRF1 participates in the SURF complex that recruits UPF1 to stalled ribosomes during nonsense-mediated decay (NMD) of mRNAs containing premature stop codons, and supports SHFL-mediated translation termination to inhibit programmed ribosomal frameshifting. The protein localizes to the cytoplasm, where it performs these essential regulatory functions in gene expression.