# Recombinant EI2BE protein (His tag)

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| **Catalog Number** | 542614 |
| **Synonyms** | eIF2B GDP-GTP exchange factor subunit epsilon |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q13144 |
| **Molecular Weight** | Predictes a molecular mass of 47.74 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 48 kDa band. |

## Product Information

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| **Sequence Region** | 41-452 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >87%, 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 41-452 aa (Q13144) were fused with 6His tag. |

## Storage & Handling

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| **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.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant Human eIF2Bε (EIF2B5) Fragment (residues 41-452) is a high-quality protein product designed for structural and biochemical studies. This 412-amino acid fragment represents a stable and soluble unit of the translation initiation factor eIF2B epsilon subunit, optimized for research applications investigating eukaryotic translation regulation.<br>The full-length translation initiation factor eIF2B subunit epsilon (eIF2Bε) functions as a critical component of the eIF2B complex, which catalyzes the exchange of GDP for GTP on the gamma subunit of eukaryotic initiation factor 2 (eIF2). This guanine nucleotide exchange activity is essential for initiating protein synthesis. Importantly, when eIF2 is phosphorylated on its alpha subunit, eIF2B's exchange activity is repressed, thereby reducing the availability of methionyl-initiator methionine tRNA to the ribosome and leading to global translational repression—a key regulatory mechanism in cellular stress responses. The protein is localized to the cytoplasm and cytosol, where it participates in these fundamental processes of translational control. |