Recombinant E2AK4 protein (His tag)

Catalog Number	546147
Synonyms	Eukaryotic translation initiation factor 2-alpha kinase 4; GCN2-like protein
Species	Human
Expression System	E. coli
Accession	Q9P2K8
Molecular Weight	Predictes a molecular mass of 32.67 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 33 kDa band.

Product Information

Sequence Region	266-540
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 266-540 aa (Q9P2K8) 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 Human eIF-2-alpha kinase GCN2 (EIF2AK4) Fragment (266-540) is a high-purity protein product encompassing the critical Protein kinase domain (residues 296-539). This fragment serves as an essential tool for investigating the kinase's role in the integrated stress response, particularly in phosphorylation of EIF2S1/eIF-2-alpha during amino acid deprivation and metabolic stress conditions. eIF-2-alpha kinase GCN2 (EIF2AK4) is a metabolic-stress sensing protein kinase that phosphorylates the alpha subunit of eukaryotic translation initiation factor 2 (EIF2S1/eIF-2-alpha) in response to low amino acid availability. As a key activator of the integrated stress response (ISR), it converts EIF2S1/eIF-2-alpha into a global protein synthesis inhibitor during nutrient depletion, leading to attenuated cap-dependent translation while promoting preferential translation of ISR-specific mRNAs like ATF4. This kinase also binds uncharged tRNAs and plays roles in cell cycle regulation, synaptic plasticity consolidation, neurite outgrowth inhibition, apoptosis during glucose deprivation, and antiviral responses against alphavirus infection. The protein is localized to the cytoplasm, where it functions as a central regulator of cellular adaptation to various stress conditions.