Recombinant E2AKA protein (His tag)

Catalog Number	533328
Synonyms	CePEK; PEK; PRKR-like endoplasmic reticulum kinase; PERK
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	Q19192
Gene ID	181334
Molecular Weight	Predictes a molecular mass of 31.61 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 32 kDa band.

Product Information

Sequence Region	53-325
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, 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 53-325 aa (Q19192) 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	This recombinant protein represents a stable, soluble fragment (residues 53-325) of the Eukaryotic translation initiation factor 2-alpha kinase pek-1 from Caenorhabditis elegans. This fragment has been computationally optimized for structural and biochemical studies, providing researchers with a valuable tool for investigating eIF2alpha kinase function and endoplasmic reticulum stress signaling pathways. The full-length Eukaryotic translation initiation factor 2-alpha kinase pek-1 (PEK/PERK) is a key regulatory enzyme that phosphorylates the alpha subunit of eukaryotic translation-initiation factor 2 (eIF2alpha), leading to its inactivation and subsequent reduction of global protein synthesis. This kinase plays a critical role in cellular stress response, particularly during hypoxia and endoplasmic reticulum stress conditions. As a single-pass type I membrane protein localized to the endoplasmic reticulum membrane, pek-1 functions as an important sensor and mediator in alleviating endoplasmic reticulum stress, making it a significant target for studying cellular stress adaptation mechanisms and protein synthesis regulation.