Recombinant IMPCT protein (His tag)

Catalog Number	539141
Synonyms	Imprinted and ancient gene protein homolog
Species	Human
Expression System	E. coli
Accession	Q9P2X3
Molecular Weight	Predictes a molecular mass of 15.38 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 17 kDa band.

Product Information

Sequence Region	1-120
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 1-120 aa (Q9P2X3) 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 Protein IMPACT Fragment (residues 1-120) is a high-purity protein designed for studying the RWD domain's role in translational regulation and stress response. This fragment serves as an essential tool for investigating cellular mechanisms under amino acid starvation, UV-C irradiation, and other stress conditions. Protein IMPACT (Imprinted and ancient gene protein homolog), encoded by the IMPACT gene in Homo sapiens, functions as a translational regulator that maintains high protein synthesis levels during various stress conditions, including amino acid starvation, UV-C irradiation, proteasome inhibition, and glucose deprivation. It acts as a negative regulator of the EIF2AK4/GCN2 kinase, inhibiting GCN1-mediated activation of EIF2AK4/GCN2, which prevents eIF-2-alpha phosphorylation and subsequent down-regulation of protein synthesis. This protein is particularly important in neuronal cells, where it regulates translation under amino acid starvation by blocking GCN2 activation and ATF4 synthesis, and promotes neurite outgrowth during differentiation. IMPACT is localized in the cytoplasm, as supported by experimental evidence.