

Recombinant Human HUNIN Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50418

Size: 10ug, 100ug

Protein Name: Humanin (Humanin mitochondrial) (HNM)

Synonym: MT-RNR2, HN

UniProt ID: Q8IVG9

UniProt Link: www.uniprot.org/uniprotkb/Q8IVG9/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 24 AA

Molecular Weight: 3 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAPRGFSCLLLLTSEIDL PVKRRA

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.



5. Product Description

This product is recombinant Humanin (Humanin mitochondrial) (HNM) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Plays a role as a neuroprotective factor (PubMed:11371646, PubMed:11717357, PubMed:12154011, PubMed:12787071, PubMed:12860203, PubMed:19386761). Protects against neuronal cell death induced by multiple different familial Alzheimer disease genes and amyloid-beta proteins in Alzheimer disease (PubMed:11371646, PubMed:11717357, PubMed:12154011, PubMed:12787071, PubMed:12860203, PubMed:19386761). Mediates its neuroprotective effect by binding to the humanin receptor complex; binding of MT-RNR2 activates the intracellular JAK-STAT3 signaling pathways (PubMed:16005025, PubMed:19386761, PubMed:27384491). Also acts as a ligand for G protein-coupled receptors FPR2/FPRL1 and FPR3/FPRL2 (PubMed:15465011). Inhibits amyloid-beta protein 40 fibril formation (PubMed:27349871). Also inhibits amyloid-beta protein 42 fibril formation (PubMed:28282805). Suppresses apoptosis by binding to BAX and preventing the translocation of BAX from the cytosol to mitochondria (PubMed:12732850, PubMed:26990160). Also suppresses apoptosis by binding to BID and inhibiting the interaction of BID with BAX and BAK which prevents oligomerization of BAX and BAK and suppresses release of apoptogenic proteins from mitochondria (PubMed:15661737). Forms fibers with BAX and also with BID, inducing BAX and BID conformational changes and sequestering them into the fibers which prevents their activation (PubMed:31690630, PubMed:33106313). Can also suppress apoptosis by interacting with BIM isoform BimEL, inhibiting BimEL-induced activation of BAX, blocking oligomerization of BAX and BAK, and preventing release of apoptogenic proteins from mitochondria (PubMed:15661735). Plays a role in up-regulation of anti-apoptotic protein BIRC6/APOLLON, leading to inhibition of neuronal cell death (PubMed:25138702). Binds to IGFBP3 and specifically blocks IGFBP3-induced cell death (PubMed:14561895, PubMed:26216267). Competes with importin KPNB1 for binding to IGFBP3 which is likely to block IGFBP3 nuclear import (PubMed:26216267). Induces chemotaxis of mononuclear phagocytes via FPR2/FPRL1 (PubMed:15153530). Reduces aggregation and fibrillary formation by suppressing the effect of APP on mononuclear phagocytes and acts by competitively inhibiting the access of FPR2 to APP (PubMed:15153530). Protects retinal pigment epithelium (RPE) cells against oxidative stress-induced and endoplasmic reticulum (ER) stress-induced apoptosis (PubMed:26990160, PubMed:27783653). Promotes mitochondrial biogenesis in RPE cells following oxidative stress and promotes STAT3 phosphorylation which leads to inhibition of CASP3 release (PubMed:26990160). Also reduces CASP4 levels in RPE cells, suppresses ER stress-induced mitochondrial superoxide production and plays a role in up-regulation of mitochondrial glutathione (PubMed:27783653). Reduces testicular hormone deprivation-induced apoptosis of germ cells at the nonandrogen-sensitive stages of the seminiferous epithelium cycle (PubMed:19952275). Protects endothelial cells against free fatty acid-induced inflammation by suppressing oxidative stress, reducing expression of TXNIP and inhibiting activation of the NLRP3 inflammasome which inhibits expression of pro-inflammatory cytokines IL1B and IL18 (PubMed:32923762). Protects against high glucose-induced endothelial cell dysfunction by mediating activation of ERK5 which leads to increased expression of transcription factor KLF2 and prevents monocyte adhesion to endothelial cells (PubMed:30029058). Inhibits the inflammatory response in astrocytes (PubMed:23277413). Increases the expression of PPARGC1A/PGC1A in pancreatic beta cells which promotes mitochondrial biogenesis (PubMed:29432738). Increases insulin sensitivity (PubMed:19623253).

Subcellular Localization: Secreted . Cytoplasm . Cell projection, cilium, flagellum . Nucleus . Mitochondrion . Note=Localizes to the sperm flagellum where it is highly concentrated in the midpiece (PubMed:20542501, PubMed:30920769). Detected in the cytoplasm and nucleus of spermatocytes and spermatids (PubMed:20542501). Also detected in sperm mitochondria (PubMed:20542501). In retinal pigment epithelium cells, detected in cytoplasm and mitochondria (PubMed:26990160).

6. Notes



- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.