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Nuclear-encoded Humanin Antibody Blocking peptide

Synthetic peptide
Catalog # BP1324a

Specification

Nuclear-encoded Humanin Antibody Blocking peptide - Product Information

Primary Accession Q8IVG9

Nuclear-encoded Humanin Antibody Blocking peptide - Additional Information

Other Names
Humanin, Humanin mitochondrial, HNM, MT-RNR2 (HGNC:7471)

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1324a was selected from the region of human Nuclear-encloded Humanin. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Nuclear-encoded Humanin Antibody Blocking peptide - Protein Information

Name MT-RNR2 (HGNC:7471)

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:<a

href="http://www.uniprot.org/citations/12787071" target="_blank">12787071, PubMed:12860203, PubMed:19386761). Mediates its neuroprotective effect by interacting with a receptor complex composed of IL6ST/GP130, IL27RA/WSX1 and CNTFR (PubMed:19386761). 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:<a href="http://www.uniprot.org/citations/30029058"

target="_blank">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).

Cellular Location
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)

Tissue Location
Expressed in testis, seminal plasma and sperm (at protein level) (PubMed:20542501, PubMed:30920769). Higher seminal plasma levels are associated with normospermia than with oligospermia, asthenospermia or oligoasthenospermia (at protein level) (PubMed:30920769). Higher sperm levels are associated with normospermia than with asthenospermia (at protein level) (PubMed:30920769) Expressed in retinal epithelial cells (at protein level) (PubMed:26990160). Expressed in the heart, skeletal muscle, kidney and liver. Lesser but significant expression is observed in the brain and the gastrointestinal tract. Expressed in the AD brain, where it is found in some of the large intact neurons of the occipital lobes and small and round reactive glial cells in the hippocampus

Nuclear-encoded Humanin Antibody Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Nuclear-encoded Humanin Antibody Blocking peptide - Images

Nuclear-encoded Humanin Antibody Blocking peptide - Background

Humanin is a secreted protein that serves as a neuroprotective factor against death induced by an array of Alzheimer's related proteins, including beta amyloid. Humanin diminishes aggregation and fibrillary formation by suppressing the effect of APP on mononuclear phagocytes and competitively inhibits the access of FPRL1 to APP. This protein has also been demonstrated to block the translocation of BAX from cytosol to mitochondria. Expression of humanin is abundant in the heart, skeletal muscles, kidney and liver. Lesser but significant expression is observed in the brain and the gastrointestinal tract. Humanin is well-expressed in brain tissue afflicted with Alzheimer's, where it is found in some of the large intact neurons of the occipital lobes and small and round reactive glial cells in the hippocampus. Intracellular levels of human are regulated by TRIM11 through the proteasomal pathway.

Nuclear-encoded Humanin Antibody Blocking peptide - References

Proc. Natl. Acad. Sci. U.S.A. 98 (11), 6336-6341 (2001)Neurosci. Lett. 324 (3), 227-231 (2002)Proc. Natl. Acad. Sci. U.S.A. 100:13042-13047(2003).J. Neurosci. 21:9235-9245(2001).Nature 423:456-461(2003).Eur. J. Neurosci. 17:1150-1158(2003).J. Immunol. 172:7078-7085(2004).