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HSPA5 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP5041c

Specification

HSPA5 Antibody (Center) Blocking Peptide - Product Information

Primary Accession P11021

HSPA5 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 3309

Other Names
78 kDa glucose-regulated protein, GRP-78, Endoplasmic reticulum lumenal Ca(2+)-binding protein grp78, Heat shock 70 kDa protein 5, Immunoglobulin heavy chain-binding protein, BiP, HSPA5, GRP78

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.

HSPA5 Antibody (Center) Blocking Peptide - Protein Information

Name HSPA5 (HGNC:5238)

Function
Endoplasmic reticulum chaperone that plays a key role in protein folding and quality control in the endoplasmic reticulum lumen (PubMed:2294010, PubMed:<a href="http://www.uniprot.org/ci

HSPA5 Antibody (Center) Blocking Peptide - Background

When Chinese hamster K12 cells are starved of glucose, the synthesis of several proteins, called glucose-regulated proteins (GRPs), is markedly increased. Hendershot et al. (1994) [PubMed 8020977] pointed out that one of these, GRP78 (HSPA5), also referred to as 'immunoglobulin heavy chain-binding protein' (BiP), is a member of the heat-shock protein-70 (HSP70) family and is involved in the folding and assembly of proteins in the endoplasmic reticulum (ER). Because so many ER proteins interact transiently with GRP78, it may play a key role in monitoring protein transport through the cell.

HSPA5 Antibody (Center) Blocking Peptide - References

Zhao, C., et al. J. Med. Virol. 82(1):14-22(2010)Zhuang, L., et al. Mod. Pathol. 23(1):45-53(2010)Arnaudeau, S., et al. Proteomics 9(23):5316-5327(2009)

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target="_blank">23769672,
PubMed:<a href="http://www.uniprot.org/ci
tations/23990668"
target="_blank">23990668,
PubMed:<a href="http://www.uniprot.org/ci
tations/28332555"
target="_blank">28332555). Involved in the correct folding of proteins and degradation of misfolded proteins via its interaction with DNAJC10/ERdj5, probably to facilitate the release of DNAJC10/ERdj5 from its substrate (By similarity). Acts as a key repressor of the ERN1/IRE1-mediated unfolded protein response (UPR) (PubMed:<a href="http://www.uniprot.org/c
itations/1550958"
target="_blank">1550958,
PubMed:<a href="http://www.uniprot.org/ci
tations/19538957"
target="_blank">19538957). In the unstressed endoplasmic reticulum, recruited by DNAJB9/ERdj4 to the luminal region of ERN1/IRE1, leading to disrupt the dimerization of ERN1/IRE1, thereby inactivating ERN1/IRE1 (By similarity). Accumulation of misfolded protein in the endoplasmic reticulum causes release of HSPA5/BiP from ERN1/IRE1, allowing homodimerization and subsequent activation of ERN1/IRE1 (By similarity). Plays an auxiliary role in post-translational transport of small presecretory proteins across endoplasmic reticulum (ER). May function as an allosteric modulator for SEC61 channel-forming translocon complex, likely cooperating with SEC62 to enable the productive insertion of these precursors into SEC61 channel. Appears to specifically regulate translocation of precursors having inhibitory residues in their mature region that weaken channel gating. May also play a role in apoptosis and cell proliferation (PubMed:<a href="http://www.uniprot.org/c
itations/26045166"
target="_blank">26045166).

Cellular Location
Endoplasmic reticulum lumen. Melanosome. Cytoplasm
{ECO:0000250|UniProtKB:P20029}. Cell surface. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV

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- Protocols

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

- Blocking Peptides