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HSPA5 / GRP78 / BiP Antibody (Gly584)
Rabbit Monoclonal Antibody
Catalog # ALS15920

Specification

HSPA5 / GRP78 / BiP Antibody (Gly584) - Product Information

Application	**WB, IHC-P, IHC-F**
Primary Accession	P11021
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Monoclonal**
Calculated MW	**72kDa KDa**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **IHC-F~~N/A**

HSPA5 / GRP78 / BiP Antibody (Gly584) - 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

Target/Specificity
Recognizes endogenous levels of total human BiP protein at 78kD. Species cross-reactivity: mouse.

Reconstitution & Storage
Long term: -20°C; Short term: +4°C. Avoid repeat freeze-thaw cycles.

Precautions
HSPA5 / GRP78 / BiP Antibody (Gly584) is for research use only and not for use in diagnostic or therapeutic procedures.

HSPA5 / GRP78 / BiP Antibody (Gly584) - 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:23769672, PubMed:23990668, PubMed: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 EIF2AK3/PERK and ERN1/IRE1- mediated unfolded protein response (UPR) (PubMed:11907036, PubMed:1550958, PubMed:19538957, PubMed:36739529). 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). Also binds and inactivates EIF2AK3/PERK in unstressed cells (PubMed:11907036). Accumulation of misfolded protein in the endoplasmic reticulum causes release of HSPA5/BiP from ERN1/IRE1 and EIF2AK3/PERK, allowing their homodimerization and subsequent activation (PubMed:11907036). 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: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 (PubMed:12643545). Localizes to the cell surface of epithelial cells in response to high levels of free iron (PubMed:20484814, PubMed:24355926, PubMed:27159390)

Volume
50 µl

HSPA5 / GRP78 / BiP Antibody (Gly584) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HSPA5 / GRP78 / BiP Antibody (Gly584) - Images

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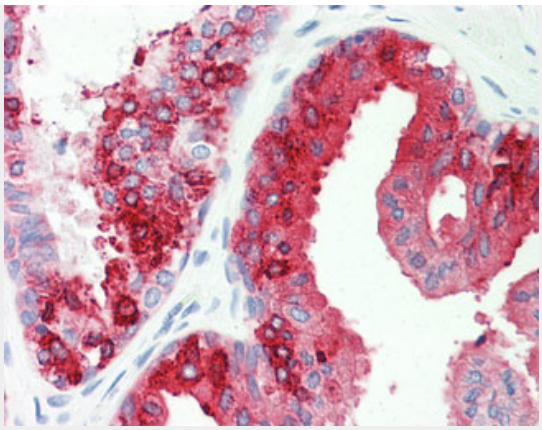

Anti-HSPA5 / GRP78 / BIP antibody IHC staining of human prostate.

HSPA5 / GRP78 / BiP Antibody (Gly584) - Background

Probably plays a role in facilitating the assembly of multimeric protein complexes inside the endoplasmic reticulum. Involved in the correct folding of proteins and degradation of misfolded proteins via its interaction with DNAJC10, probably to facilitate the release of DNAJC10 from its substrate.

HSPA5 / GRP78 / BiP Antibody (Gly584) - References

Ting J.,et al.DNA 7:275-286(1988).
Chao C.C.K.,et al.Submitted (DEC-1995) to the EMBL/GenBank/DDBJ databases.
Hansen J.J.,et al.Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
Bermudez-Fajardo A.,et al.Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
Humphray S.J.,et al.Nature 429:369-374(2004).