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Anti-GRP78 BiP HSPA5 Rabbit Monoclonal Antibody

Catalog # ABO13957

Product Information

Application	WB, IHC, IF, ICC
Primary Accession	P11021
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-GRP78 BiP HSPA5 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	3309
Other Names	Endoplasmic reticulum chaperone BiP, 3.6.4.10, 78 kDa glucose-regulated protein, GRP-78, Binding-immunoglobulin protein {ECO:0000303|Ref.4}, BiP {ECO:0000303|Ref.4}, Heat shock protein 70 family protein 5, HSP70 family protein 5, Heat shock protein family A member 5 {ECO:0000312|HGNC:HGNC:5238}, Immunoglobulin heavy chain-binding protein {ECO:0000303|Ref.4}, HSPA5 (HGNC:5238)
Calculated MW	72333
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200
Subcellular Localization	Endoplasmic reticulum lumen. Melanosome. Cytoplasm. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: BOO-8
Immunogen	A synthesized peptide derived from human GRP78 BiP
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name

HSPA5 (HGNC:5238)

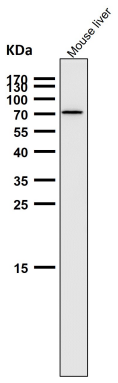
Function

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)

Images



All lanes use the Antibody at 1:1K dilution for 1 hour at room temperature.

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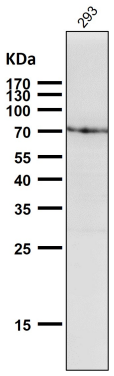
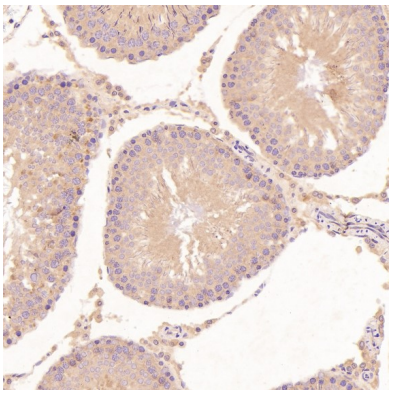
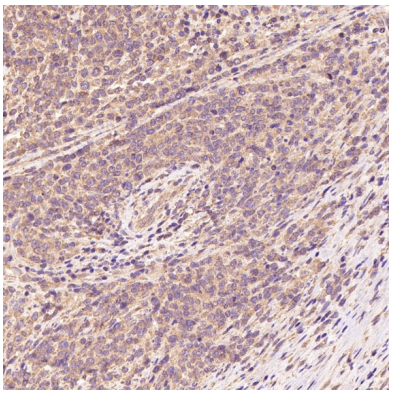
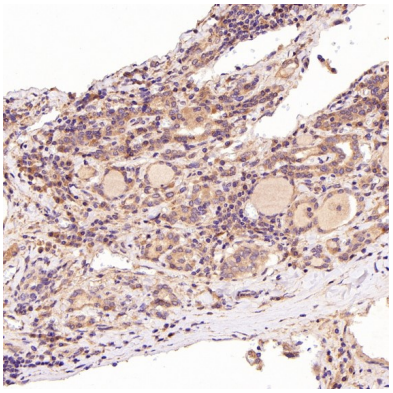




Immunohistochemical analysis of paraffin-embedded Rat testis, using the Antibody at 1:200 dilution.

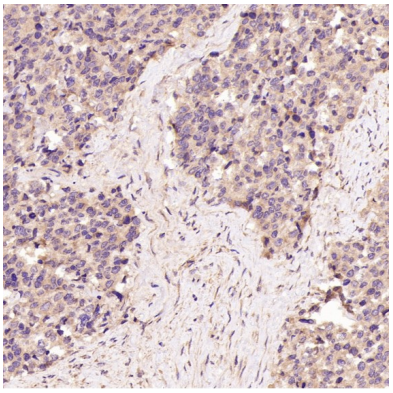


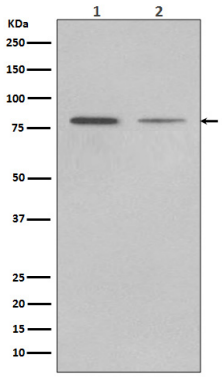
Immunohistochemical analysis of paraffin-embedded Human non-Hodgkin's lymphoma, using the Antibody at 1:100 dilution.



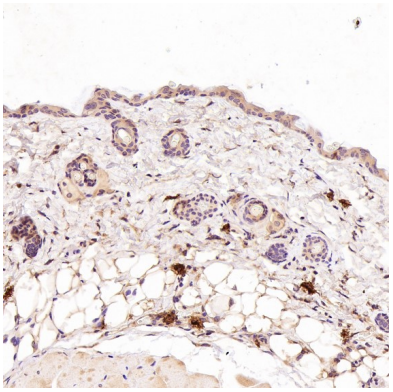
Immunohistochemical analysis of paraffin-embedded Human thyroid cancer, using the Antibody at 1:100 dilution.

Immunohistochemical analysis of paraffin-embedded Human prostate cancer, using the Antibody at 1:100 dilution.

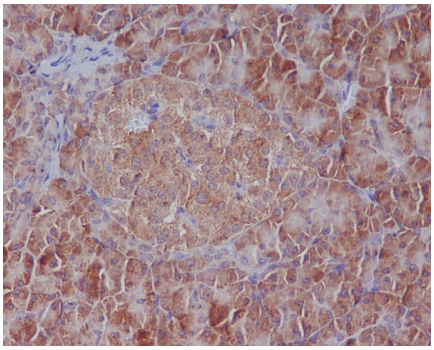




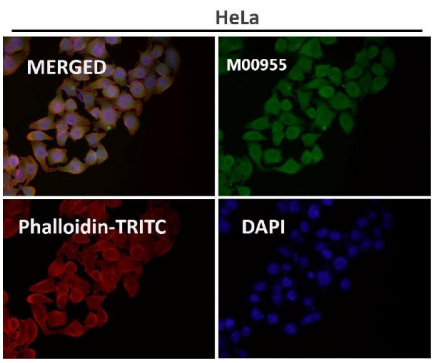
Western blot analysis of GRP78 BiP expression in (1) LnCaP cell lysate;(2) HepG2 cell lysate.



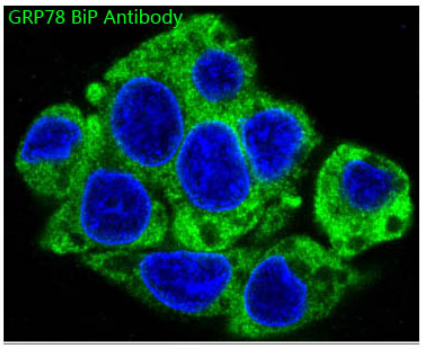
Immunohistochemical analysis of paraffin-embedded Mouse skin, using the Antibody at 1:200 dilution.



Immunohistochemical analysis of paraffin-embedded human pancreas, using GRP78 BiP Antibody.



Immunofluorescent analysis using the Antibody at 1:50 dilution.



Immunofluorescent analysis of HepG2 cells, using GRP78 BiP Antibody.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.