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Anti-GRP78 BiP Antibody

Catalog # ABO11123

Product Information

Application	WB, IHC-P, IHC-F, ICC
Primary Accession	P11021
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for 78 kDa glucose-regulated protein(HSPA5) detection. Tested with WB, IHC-P, IHC-F, ICC in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

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
Calculated MW	72333
Application Details	Immunocytochemistry , 0.5-1 μg/ml, Human, Mouse, Rat Immunohistochemistry(Frozen Section), 0.5-1 μg/ml, Rat, Human, Mouse Immunohistochemistry(Paraffin-embedded Section), 0.5-1 μg/ml, Human, Rat, Mouse, By Heat Western blot, 0.1-0.5 μg/ml, Human, Rat, Mouse
Subcellular Localization	Endoplasmic reticulum lumen. Melanosome. Cytoplasm . Identified by mass spectrometry in melanosome fractions from stage I to stage IV.
Source	Eukaryota
Protein Name	78 kDa glucose-regulated protein
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human GRP78 BiP(603-617aa EWLESHQDADIEDFK), identical to the related mouse and rat sequences.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the heat shock protein 70 family.

Protein Information

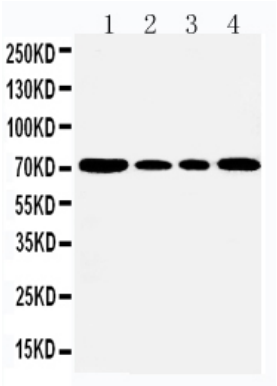
Name	HSPA5 (HGNC:5238)
Function	Endoplasmic reticulum chaperone that plays a key role in protein folding and quality control in the endoplasmic reticulum lumen (PubMed:2294010, PubMed:23769672, PubMed:23990668, PubMed:28332555). Involved in the correct folding of proteins and degradation of misfolded 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)

Background

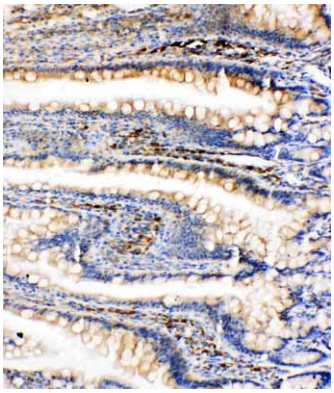
HSPA5(heat shock 70kDa protein 5) also known as glucose-regulated protein, 78kD(GRP78) or BiP, is a member of the heat-shock protein-70(HSP70) family and is involved in the folding and assembly of proteins in the endoplasmic reticulum. BiP is also an essential component of the translocation machinery, as well as playing a role in retrograde transport across the ER membrane of aberrant proteins destined for degradation by the proteasome. The HSPA5 gene is mapped on 9q33.3. Shen et al.(2002) concluded that HSPA5 retains ATF6 in the ER by inhibiting its Golgi localization signals and that dissociation of HSPA5 during ER stress allows ATF6 to be transported to the Golgi. The findings of Shen et al.(2002) demonstrated that HSPA5 is a key element in sensing the folding capacity within the ER.

Images

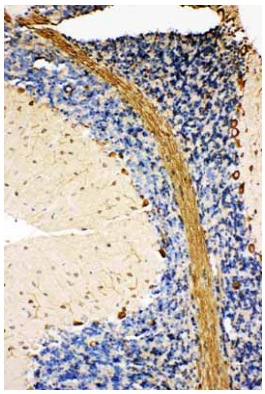
Anti-GRP78 BiP antibody, ABO11123, Western



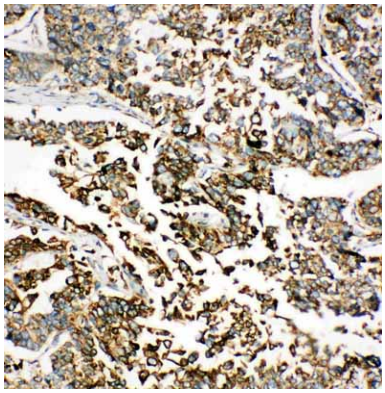
blottingLane 1: Rat Testis Tissue LysateLane 2: A549 Cell LysateLane 3: MCF-7 Cell LysateLane 4: HELA Cell Lysate



Anti-GRP78 BiP antibody, ABO11123, IHC(P)IHC(P): Rat Intestine Tissue

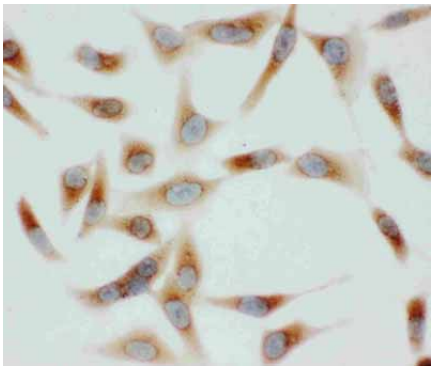


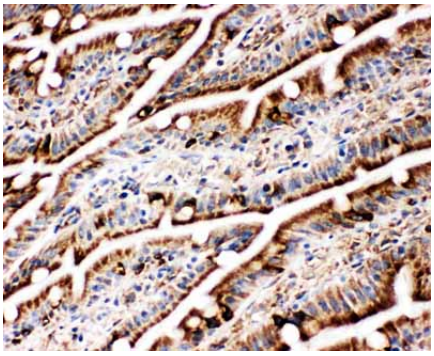
Anti-GRP78 BiP antibody, ABO11123, IHC(P)IHC(P): Rat Cerebellum Tissue



Anti-GRP78 BiP antibody, ABO11123, IHC(P)IHC(P): Human Lung Cancer Tissue

Anti-GRP78 BiP antibody, ABO11123, ICCICC: HELA Cell





Anti-GRP78 BiP antibody, ABO11123, IHC(F)IHC(F): Rat Intestine Tissue

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