

## Rabbit GRP78 Polyclonal Antibody | anti-GRP78 antibody

GRP78 Antibody

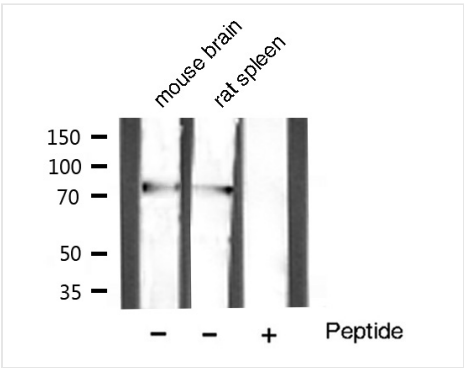
| CATALOG # | HOST   | REACTIVITY                | APPLICATIONS                                                                       |
|-----------|--------|---------------------------|------------------------------------------------------------------------------------|
| AAA322017 | Rabbit | Human, Mouse, Rat, Monkey | ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot |

### PRODUCT SYNONYMS

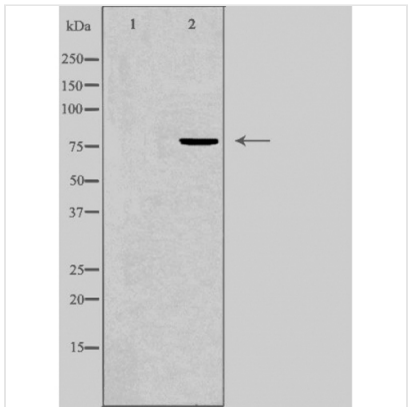
GRP78; Polyclonal Antibody; GRP78 Antibody; 78 kDa glucose regulated protein; 78 kDa glucose-regulated protein; AL022860; AU019543; BIP; D2Wsu141e; D2Wsu17e; Endoplasmic reticulum lumenal Ca(2+)-binding protein grp78; Endoplasmic reticulum lumenal Ca2+ binding protein grp78; Epididymis secretory sperm binding protein Li 89n; FLJ26106; Glucose Regulated Protein 78kDa; GRP 78; GRP-78; GRP78\_HUMAN; Heat shock 70 kDa protein 5; Heat Shock 70kDa Protein 5; Heat shock protein family A (Hsp70) member 5; HEL S 89n; Hsce70; HSPA 5; HSPA5; Immunoglobulin Heavy Chain Binding Protein; Immunoglobulin heavy chain-binding protein; mBiP; MIF2; Sez7; anti-GRP78 antibody

### PRODUCT SPECIFICATIONS

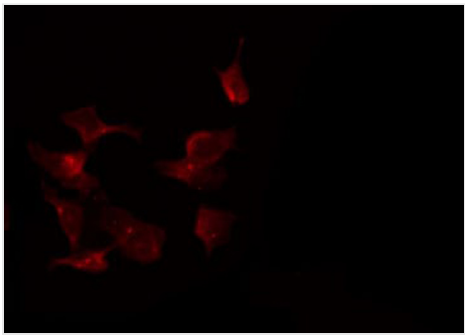
|                                                 |                                                                                                                                       |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Host                                            | Rabbit                                                                                                                                |
| Reactivity                                      | Human, Mouse, Rat, Monkey                                                                                                             |
| Clonality                                       | Polyclonal                                                                                                                            |
| Isotype                                         | IgG                                                                                                                                   |
| Specificity                                     | GRP78 antibody detects endogenous levels of total GRP78                                                                               |
| Purity/Purification                             | The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.                                         |
| Form/Format                                     | Liquid<br>Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.                                         |
| Concentration                                   | 1mg/ml (varies by lot)                                                                                                                |
| Sequence Length                                 | 654                                                                                                                                   |
| Applicable Applications for anti-GRP78 antibody | ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)                              |
| Immunogen                                       | A synthesized peptide derived from human GRP78                                                                                        |
| Subcellular Location                            | Endoplasmic Reticulum Lumen. Melanosome. Cytoplasm. Identified by mass spectrometry in melanosome fractions from stage I to stage IV. |
| Tissue Specificity                              | By endoplasmic reticulum stress.                                                                                                      |
| Predicted Cross Reactivity                      | <b>Rabbit, Chicken</b>                                                                                                                |
| Similarity                                      | Rabbit (100%), Chicken (82%)                                                                                                          |
| Conjugation                                     | Unconjugated                                                                                                                          |
| Preparation and Storage                         | Store at -20 degree C. Stable for 12 months from date of receipt.                                                                     |



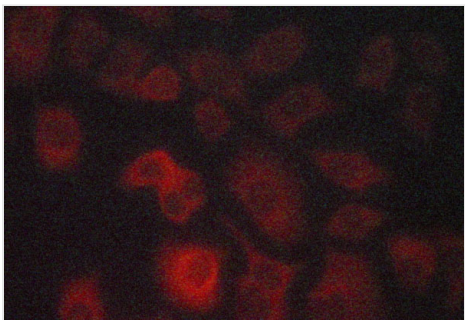
**WB (Western Blot)**  
Western blot analysis of extracts of various celllines, using GRP78 Antibody



**WB (Western Blot)**  
Western blot analysis of GRP78 expression in COS7 cell lysate. The lane on the left is treated with the antigen-specific peptide.



**IF (Immunofluorescence)**  
AAA322017 staining COS7 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



**IF (Immunofluorescence)**  
AAA322017 staining Iovo cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/400 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.

ADDITIONAL INFORMATION

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Related Product Information for anti-GRP78 antibody | <p>Description: GRP78 a member of the HSP family of molecular chaperones required for endoplasmic reticulum integrity and stress-induced autophagy. Plays a central role in regulating the unfolded protein response (UPR), and is an obligatory component of autophagy in mammalian cells.. May play an important role in cellular adaptation and oncogenic survival. One of the client proteins of GRP78 is protein double-stranded RNA-activated protein-like endoplasmic reticulum kinase (PERK).</p> <p>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 ERN1/IRE1-mediated unfolded protein response (UPR) (PubMed:1550958, PubMed: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).</p> <p>Subunit Structure: Monomer and homooligomer; homooligomerization via the interdomain linker inactivates the chaperone activity and acts as a storage of HSPA5/BiP molecules (By similarity). Interacts with DNAJC1 (via J domain) (By similarity). Component of an EIF2 complex at least composed of CELF1/CUGBP1, CALR, CALR3, EIF2S1, EIF2S2, HSP90B1 and HSPA5 (By similarity). Part of a large chaperone multiprotein complex comprising DNAJB11, HSP90B1, HSPA5, HYOU, PDIA2, PDIA4, PDIA6, PPIB, SDF2L1, UGT1A1 and very small amounts of ERP29, but not, or at very low levels, CALR nor CANX (By similarity). Interacts with TMEM132A and TRIM21 (PubMed:12699405). May form a complex with ERLEC1, OS9, SEL1L and SYVN1 (PubMed:18264092, PubMed:18502753). Interacts with DNAJC10 (PubMed:12411443, PubMed:23769672). Interacts with DNAJB9/ERdj4; leading to recruit HSPA5/BiP to ERN1/IRE1 (By similarity). Interacts with ERN1/IRE1; interaction takes place following interaction with DNAJB9/ERdj4 and leads to inactivate ERN1/IRE1 (By similarity). Interacts with MX1 (By similarity). Interacts with METTL23 (PubMed:23349634). Interacts with CEMIP; the interaction induces calcium leakage from the endoplasmic reticulum and cell migration (PubMed:23990668). Interacts with PCSK4 form; the interaction takes place in the endoplasmic reticulum (PubMed:21080038). Interacts with CIPC (PubMed:26657846). Interacts with CCDC88B (via C-terminus); the interaction opposes ERN1-mediated JNK activation, protecting against apoptosis (PubMed:21289099). Interacts with INPP5K; necessary for INPP5K localization at the endoplasmic reticulum (PubMed:26940976). Interacts with MANF; the interaction is direct (PubMed:22637475). Interacts with LOXL2; leading to activate the ERN1/IRE1-XBP1 pathway of the unfolded protein response (PubMed:28332555).</p> <p>Post-translational Modifications: AMPylated by FICD (PubMed:25601083). In unstressed cells, AMPylation at Thr-518 by FICD inactivates the chaperome activity: AMPylated form is locked in a relatively inert state and only weakly stimulated by J domain-containing proteins (By similarity). In response to endoplasmic reticulum stress, de-AMPylation by the same protein, FICD, restores the chaperone activity (By similarity).</p> <p>Similarity: The interdomain linker regulates the chaperone activity by mediating the formation of homooligomers. Homooligomers are formed by engagement of the interdomain linker of one HSPA5/BiP molecule as a typical substrate of an adjacent HSPA5/BiP molecule. HSPA5/BiP oligomerization inactivates participating HSPA5/BiP protomers. HSPA5/BiP oligomers probably act as reservoirs to store HSPA5/BiP molecules when they are not needed by the cell. When the levels of unfolded proteins rise, cells can rapidly break up these oligomers to make active monomers. Belongs to the heat shock protein 70 family.</p> |
| References                                          | <p>Liu Y, Shen HJ, Wang XQ, Liu HQ, Zheng LY, Luo JD; Journal: J Cell Biochem. EndophilinA2 protects against angiotensin II-induced cardiac hypertrophy by inhibiting angiotensin II type 1 receptor trafficking in neonatal rat cardiomyocytes. Li J, Yang S, Li X, Liu D, Wang Z, Guo J, Tan N, Gao Z, Zhao X, Zhang J, Gou F, Yokota H, Zhang P; Journal: Bone. Role of endoplasmic reticulum stress in disuse osteoporosis. Tan N, Li X, Zhai L, Liu D, Li J, Yokota H, Zhang P; Journal: Hepatol Res. Effects of knee loading on obesity-related non-alcoholic fatty liver disease in an ovariectomized mouse model with high-fat diet. Tang H, Peng F, Huang X, Xie X, Chen B, Shen J, Gao F, You J, Xie X, Chen J; Journal: Curr Cancer Drug Targets. Neoisoliquiritigenin Inhibits Tumor Progression by Targeting GRP78-beta-catenin Signaling in Breast Cancer.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

NCBI AND UNIPROT INFORMATION

|                           |             |
|---------------------------|-------------|
| NCBI GI #                 | 16507237    |
| NCBI GeneID               | 3309        |
| NCBI Accession #          | NP_005338.1 |
| NCBI GenBank Nucleotide # | NM_005347.4 |

|                                  |                                                                                                                                                                                                                        |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UniProt Accession #              | P11021; Q2EF78; Q9NPF1; Q9UK02; B0QZ61                                                                                                                                                                                 |
| Molecular Weight                 | Observed: 78 kDa<br>Predicted: 73 kDa                                                                                                                                                                                  |
| NCBI Official Full Name          | endoplasmic reticulum chaperone BiP                                                                                                                                                                                    |
| NCBI Official Synonym Full Names | heat shock protein family A (Hsp70) member 5                                                                                                                                                                           |
| NCBI Official Symbol             | HSPA5                                                                                                                                                                                                                  |
| NCBI Official Synonym Symbols    | BIP; MIF2; GRP78; HEL-S-89n                                                                                                                                                                                            |
| NCBI Protein Information         | endoplasmic reticulum chaperone BiP                                                                                                                                                                                    |
| UniProt Protein Name             | Endoplasmic reticulum chaperone BiP                                                                                                                                                                                    |
| UniProt Gene Name                | <b>HSPA5</b>                                                                                                                                                                                                           |
| UniProt Synonym Gene Names       | GRP781 PublicationManual assertion based on opinion iniRef.1; GRP-781 PublicationManual assertion based on opinion iniRef.1; BiP1 PublicationManual assertion based on opinion iniRef.4; HSP70 family protein 5Curated |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/grp78-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/322017>