

**GRP78 BiP Polyclonal Antibody**  
Catalog # AP74041**Specification****GRP78 BiP Polyclonal Antibody - Product Information**

Application	WB, IHC-P
Primary Accession	<a href="#">P11021</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

**GRP78 BiP Polyclonal Antibody - Additional Information**

Gene ID 3309

**Other Names**

78 kDa glucose-regulated protein (GRP-78) (Endoplasmic reticulum luminal Ca(2+)-binding protein grp78) (Heat shock 70 kDa protein 5) (Immunoglobulin heavy chain-binding protein) (BiP)

**Dilution**

WB~~WB 1:500-2000,IHC-p 1:500-200, ELISA 1:10000-20000  
IHC-P~~N/A

**Format**

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

**Storage Conditions**

-20°C

**GRP78 BiP Polyclonal Antibody - 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:<a href="http://www.uniprot.org/citations/2294010" target="\_blank">2294010</a>, PubMed:<a href="http://www.uniprot.org/citations/23769672" target="\_blank">23769672</a>, PubMed:<a href="http://www.uniprot.org/citations/23990668" target="\_blank">23990668</a>, PubMed:<a href="http://www.uniprot.org/citations/28332555" target="\_blank">28332555</a>). 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:<a href="http://www.uniprot.org/citations/11907036" target="\_blank">11907036</a>, PubMed:<a href="http://www.uniprot.org/citations/1550958" target="\_blank">1550958</a>, PubMed:<a href="http://www.uniprot.org/citations/19538957" target="\_blank">19538957</a>, PubMed:<a href="http://www.uniprot.org/citations/36739529" target="\_blank">36739529</a>). 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:<a href="http://www.uniprot.org/citations/11907036" target="\_blank">11907036</a>). 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:<a href="http://www.uniprot.org/citations/11907036" target="\_blank">11907036</a>). 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/citations/26045166" target="\_blank">26045166</a>).

#### Cellular Location

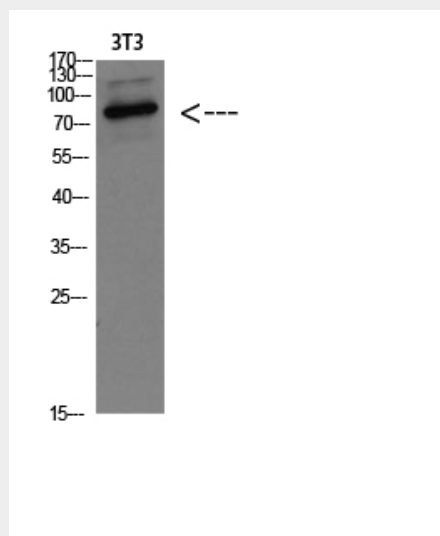
Endoplasmic reticulum lumen. Melanosome. Cytoplasm {ECO:0000250|UniProtKB:P20029}. Cell surface Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV (PubMed:12643545). Localizes to the cell surface of epithelial cells in response to high levels of free iron (PubMed:20484814, PubMed:24355926, PubMed:27159390)

#### GRP78 BiP Polyclonal Antibody - Protocols

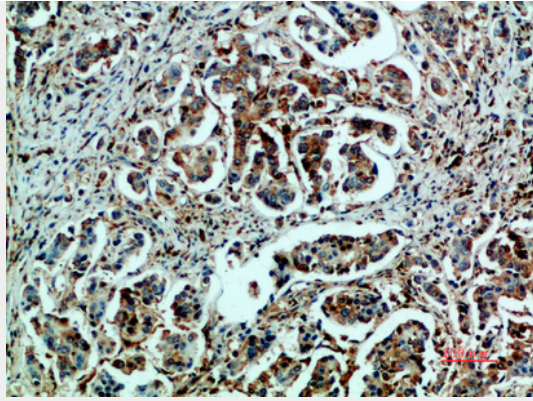
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

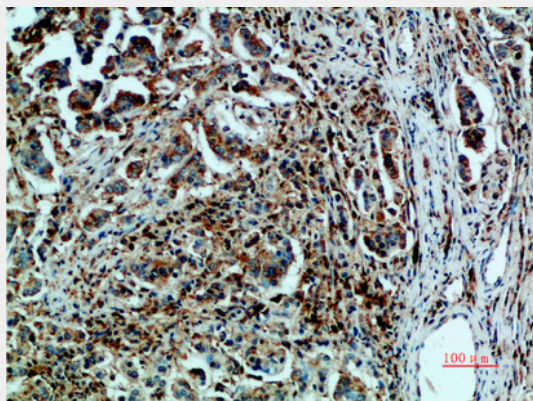
#### GRP78 BiP Polyclonal Antibody - Images



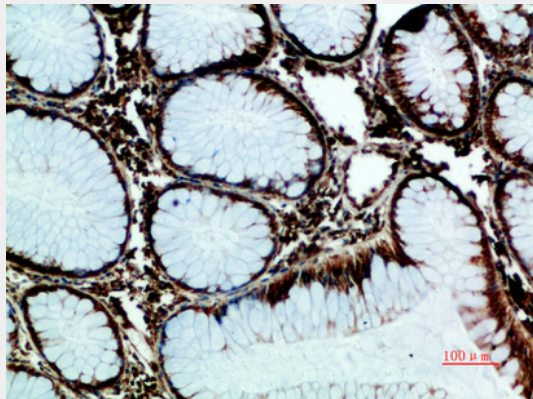
Western blot analysis of 3T3 Cell Lysate, antibody was diluted at 1:1000. Secondary antibody was diluted at 1:20000



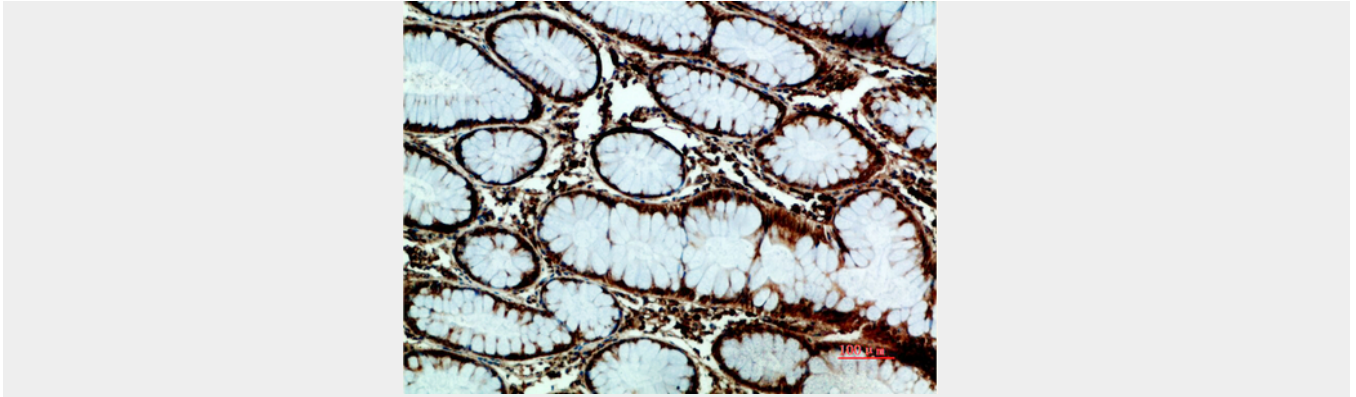
Immunohistochemical analysis of paraffin-embedded human-breast-cancer, antibody was diluted at 1:200



Immunohistochemical analysis of paraffin-embedded human-breast-cancer, antibody was diluted at 1:200



Immunohistochemical analysis of paraffin-embedded human-colon-cancer, antibody was diluted at 1:200



Immunohistochemical analysis of paraffin-embedded human-colon-cancer, antibody was diluted at 1:200

### **GRP78 BiP Polyclonal Antibody - Background**

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). 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.