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BiP/GRP78 (C-terminus) Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52683

Product Information

Application	WB, ICC, IHC
Primary Accession	P11021
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	72333

Additional Information

Gene ID	3309
Other Names	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;FLJ26106;Glucose Regulated Protein 78kDa;GRP 78;GRP-78;GRP78;GRP78_HUMAN;Heat shock 70 kDa protein 5;Heat Shock 70kDa Protein 5;Hsce70;HSPA 5;HSPA5;Immunoglobulin Heavy Chain Binding Protein; Immunoglobulin heavy chain-binding protein;mBiP;MIF2;Sez7.
Dilution	WB~~1:1000 ICC~~1:50 IHC~~1:100
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid 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)

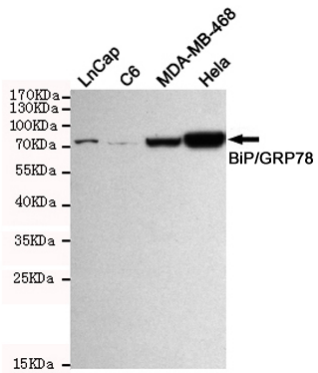
Background

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.

References

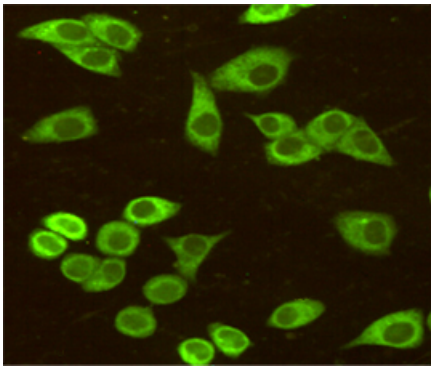
Ting J.,et al.DNA 7:275-286(1988).
Chao C.C.K.,et al.Submitted (DEC-1995) to the EMBL/GenBank/DDBJ databases.
Hansen J.J.,et al.Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
Bermudez-Fajardo A.,et al.Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
Humphray S.J.,et al.Nature 429:369-374(2004).

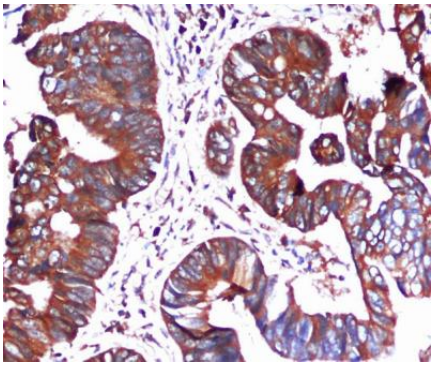
Images



Western blot detection of BiP/GRP78 (C-terminus) in Hela,C6,Lncap and MDA-MB-468 cell lysates using BiP/GRP78 (C-terminus) mouse mAb (1:1000 diluted).Predicted band size:72KDa.Observed band size:78KDa.

Immunocytochemistry staining of HeLa cells fixed with 4% Paraformaldehyde and using anti-BiP/GRP78 (C-terminus) mouse mAb (dilution 1:50).





Immunohistochemical analysis of paraffin-embedded Colorectal cancer using BiP/GRP78 (C-terminus) Mouse mAb (1/100 dilution).Antigen retrieval was performed by pressure cooking in citrate buffer (pH 6.0).

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