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GRP78 Antibody
Catalog # ASM10421

Specification

GRP78 Antibody - Product Information

Application	**ICC/IF, WB**
Primary Accession	P06761.1
Other Accession	NP_037215.1
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**

Description
Rabbit Anti-Rat GRP78 Polyclonal

Target/Specificity
Detects ~78kDa. Weak detection in human tissues.

Other Names
BIP Antibody, Grp78 Antibody, HSPA5 Antibody, MIF2 Antibody, immunoglobulin heavy chain binding protein Antibody

Immunogen
His-tagged rat GRP78

Purification
Protein A Purified

Storage	**-20ºC**

Storage Buffer
PBS pH7.4, 50% glycerol, 0.09% sodium azide

Shipping Temperature	**Blue Ice or 4ºC**

Certificate of Analysis
1 µg/ml of SPC-167 was sufficient for detection of Grp78 in 10 µg of rat brain cell lysate by colorimetric immunoblot analysis using Goat anti -rabbit IgG:HRP as the secondary antibody.

Cellular Localization
Endoplasmic Reticulum | Endoplasmic Reticulum Membrane | Melanosome

GRP78 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation

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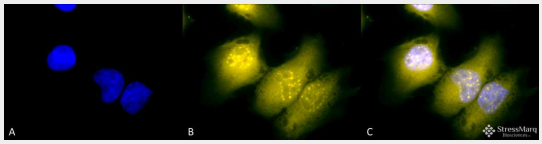
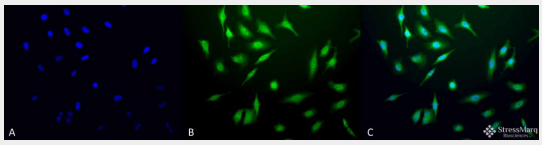
- Flow Cytomety
- Cell Culture

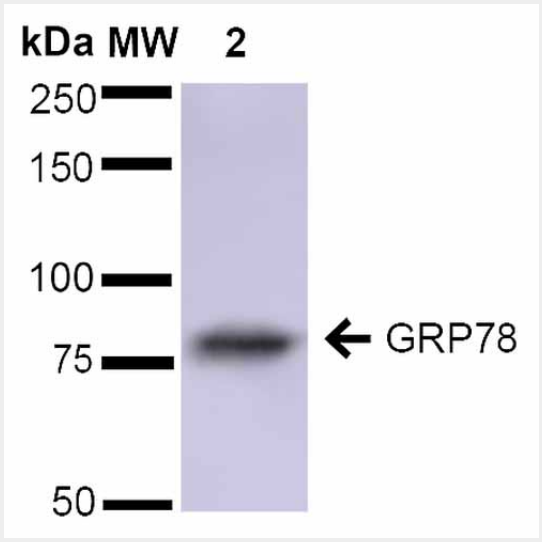
GRP78 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-GRP78 Polyclonal Antibody (ASM10421). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-GRP78 Polyclonal Antibody (ASM10421) at 1:60 for 12 hours at 4°C. Secondary Antibody: R-PE Goat Anti-Rabbit (yellow) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Endoplasmic reticulum lumen. Melanosome. Cytoplasm. Nucleus. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-GRP78 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-GRP78 Polyclonal Antibody (ASM10421). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-GRP78 Polyclonal Antibody (ASM10421) at 1:60 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Endoplasmic reticulum lumen. Melanosome. Cytoplasm. Nucleus. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-GRP78 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.



Western blot analysis of Rat Brain cell lysates showing detection of ~78 kDa GRP78 protein using Rabbit Anti-GRP78 Polyclonal Antibody (ASM10421). Lane 1: Molecular Weight Ladder (MW). Lane 2: Rat Brain cell lysates. Load: 15 µg. Block: 5% Skim Milk in 1X TBST. Primary Antibody: Rabbit Anti-GRP78 Polyclonal Antibody (ASM10421) at 1:1000 for 2 hours at RT. Secondary Antibody: Goat Anti-Rabbit IgG: HRP at 1:2000 for 60 min at RT. Color Development: ECL solution for 5 min at RT. Predicted/Observed Size: ~78 kDa.

GRP78 Antibody - Background

GRP78 is a ubiquitously expressed, 78-kDa glucose-regulated protein, and is commonly referred to as an immunoglobin chain binding protein (BiP). The BiP proteins are categorized as stress response proteins because they play an important role in the proper folding and assembly of nascent protein and in the scavenging of misfolded proteins in the endoplasmic reticulum lumen. Translation of BiP is directed by an internal ribosomal entry site (IRES) in the 5' nontranslated region of the BiP mRNA. BiP IRES activity increases when cells are heat stressed (1). GRP78 is also critical for maintenance of cell homeostasis and the prevention of apoptosis (2). Luo et al. have provided findings that suggest GRP78 is essential for embryonic cell growth and pluripotent cell survival (3). In terms of diseases, GRP78 has been shown to be a reliable biomarker of hypoglycemia, to serve a neuroprotective function in neurons exposed to glutamate and oxidative stress (4), and its protein levels are reduced in the brains of Alzheimer’s patients (5). Also, the induction of the GRP78 protein that results in severe glucose and oxygen deprivation could possible lead to drug resistance to anti¬tumor drugs (6, 7).

GRP78 Antibody - References

1. Cho S., et al. (2007). Mol Cell Biol 27(1): 368-83.
2. Yang Y., et al. (1998) J Biol Chem 273: 25552-25555.
3. Luo S., et al (2006) 26 (15): 5688-97.
4. Yu Z., et al. (1999) Exp Neurol. 15: 302-314.
5. Koomagi R., et al. (1999) Anticancer Res. 19:4333- 4336.
6. Laquerre S., et al. (1998) J. Virology 72: 4940-4949.
7. Dong D., et al. (2005) Cancer Res 65(13): 5785-91.