

GRP78 Antibody
GRP78 Antibody, Clone 1H11-1H7
Catalog # ASM10143

Specification

GRP78 Antibody - Product Information

Application	WB
Primary Accession	P20029
Other Accession	NP_001156906.1
Host	Mouse
Isotype	IgG2b
Reactivity	Human, Mouse, Rat, Rabbit, Hamster, Monkey, Xenopus, Bovine, Fungi
Clonality	Monoclonal

Description

Mouse Anti-Human GRP78 Monoclonal IgG2b

Target/Specificity

Detects ~78kDa.

Other Names

78 kDa glucose regulated protein Antibody, 78 kDa glucose-regulated protein Antibody, AL022860 Antibody, AU019543 Antibody, BIP Antibody, D2Wsu141e Antibody, D2Wsu17e Antibody, Endoplasmic reticulum luminal Ca(2+)-binding protein grp78 Antibody, Endoplasmic reticulum luminal Antibody, Ca²⁺ binding protein grp78 Antibody, FLJ26106 Antibody, Glucose Regulated Protein 78kDa Antibody, GRP 78 Antibody, GRP-78 Antibody, GRP78_HUMAN Antibody, Heat shock 70 kDa protein 5 Antibody, Heat Shock 70kDa Protein 5 Antibody, H5Ce70 Antibody, HSPA 5 Antibody, HSPA5 Antibody, Immunoglobulin Heavy Chain Binding Protein Antibody, Immunoglobulin heavy chain-binding protein Antibody, mBiP Antibody, MIF2 Antibody, Sez7 Antibody

Immunogen

His-tagged human GRP78

Purification

Protein G Purified

Storage **-20°C**

Storage Buffer

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

Shipping Temperature **Blue Ice or 4°C**

Certificate of Analysis

0.5 µg/ml of SMC-195 was sufficient for detection of Grp78 in 10 µg of rat tissue lysate by ECL immunoblot analysis.

Cellular Localization

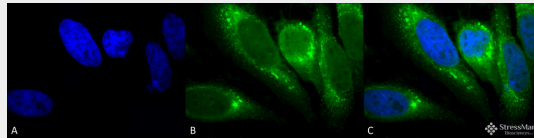
Endoplasmic Reticulum | Endoplasmic Reticulum Lumen | Melanosome

GRP78 Antibody - Protocols

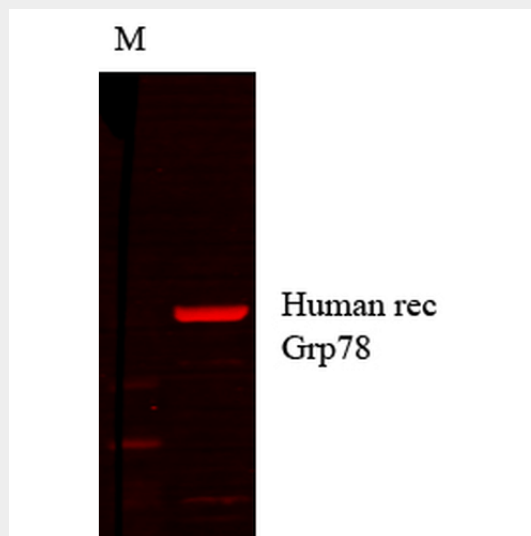
Provided below are standard protocols that you may find useful for product applications.

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

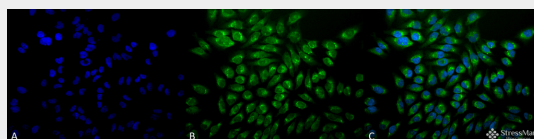
GRP78 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-GRP78 Monoclonal Antibody, Clone 1H11-1H7 (ASM10143). Tissue: Heat Shocked cervical cancer cells (HeLa). Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10143) at 1:100 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Mouse (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. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-GRP78 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.

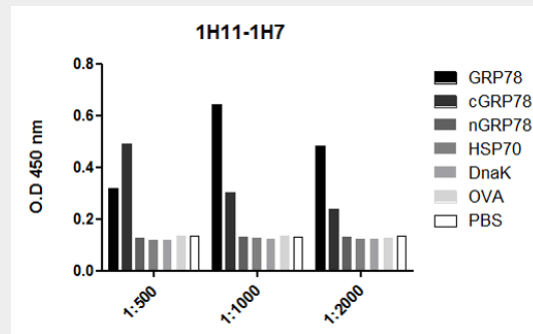


Western Blot analysis of Human cell lysates showing detection of GRP78 protein using Mouse Anti-GRP78 Monoclonal Antibody, Clone 1H11-1H7 (ASM10143). Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10143) at 1:1000.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-GRP78 Monoclonal Antibody, Clone 1H11-1H7 (ASM10143). Tissue: Heat Shocked cervical cancer cells (HeLa).

Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10143) at 1:100 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Mouse (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. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-GRP78 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.



ELISA analysis using Mouse Anti-GRP78 Monoclonal Antibody, Clone 1H11-1H7 (ASM10143). Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10143). Secondary Antibody: Goat anti-mouse IgG: HRP at 1:10000. Courtesy of: Cristina Bonorino, Department of Basic Health Sciences - UFCSPA, School of Medicine - UCSD.

GRP78 Antibody - Background

GRP78 is a ubiquitously expressed, 78-kDa glucose- regulated protein, and is commonly referred to as an immunoglobulin 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' non-translated 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). Lou 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.