10320 Camino Santa Fe, Suite G
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GRP78 Antibody
GRP78 Antibody, Clone 3G12-1G11
Catalog # ASM10156

Specification

GRP78 Antibody - Product Information

Application	**WB**
Primary Accession	P06761
Other Accession	NP_037215.1
Host	**Mouse**
Isotype	**IgG1 Kappa**
Reactivity	**Human, Mouse, Rat**
Clonality	**Monoclonal**

Description
Mouse Anti-Rat GRP78 Monoclonal IgG1 Kappa

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 lumenal Ca(2+)-binding protein grp78 Antibody, Endoplasmic reticulum lumenal Antibody, Ca2+ binding protein grp78 Antibody, FLJ26106 Antibody, Glucose Regu□□□□□□□□□□□ 0 □ □□□□<□□□□2 Antibody

Immunogen
Full-length recombinant rat GRP78

Purification
Protein G 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 SMC-211 was sufficient for detection of GRP78 in 20 µg of HEK-293 lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

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

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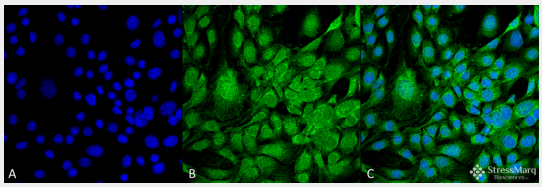
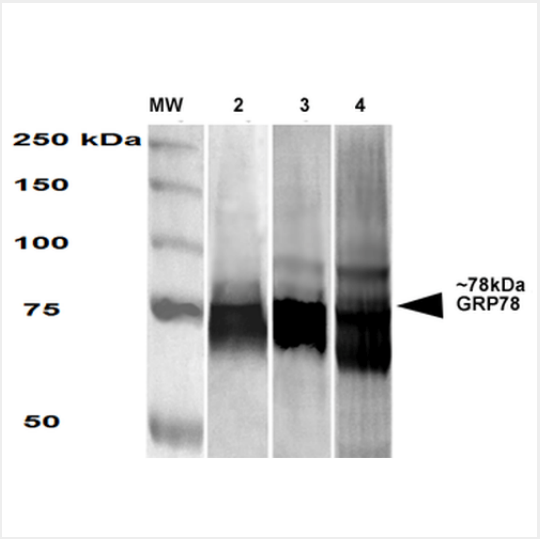
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

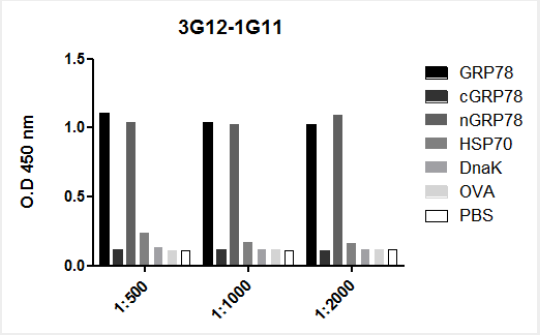
GRP78 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-GRP78 Monoclonal Antibody, Clone 3G12-1G11 (ASM10156). Tissue: Fibroblast cell line (NIH 3T3). Species: Mouse. Fixation: 4% Formaldehyde for 15 min at RT. Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10156) at 1:100 for 60 min at RT. Secondary Antibody: Goat Anti-Mouse ATTO 488 at 1:100 for 60 min at RT. Counterstain: DAPI (blue) nuclear stain at 1:5000 for 5 min RT. Localization: Endoplasmic Reticulum, Endoplasmic Reticulum Lumen . Magnification: 60X.



Western Blot analysis of Human, Mouse, Rat HEK-293, NIH3T3, and Rat Brain cell lysates showing detection of GRP78 protein using Mouse Anti-GRP78 Monoclonal Antibody, Clone 3G12-1G11 (ASM10156). Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10156) at 1:1000.



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ELISA analysis using Mouse Anti-GRP78 Monoclonal Antibody, Clone 3G12-1G11 (ASM10156). Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10156). 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 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.