

GRP78 Antibody

GRP78 Antibody, Clone 3G12-1G11

Specification

GRP78 Antibody - Product Information

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

Description

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Target/Specific Pathogen ZSLP

Other Names

Immunogen

Full-length recombinant rat 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

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

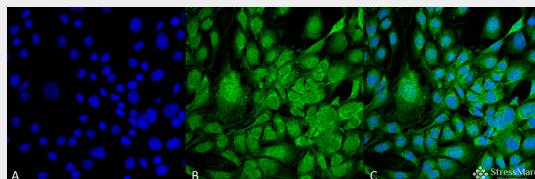
GRP78 Antibody - Protocols

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

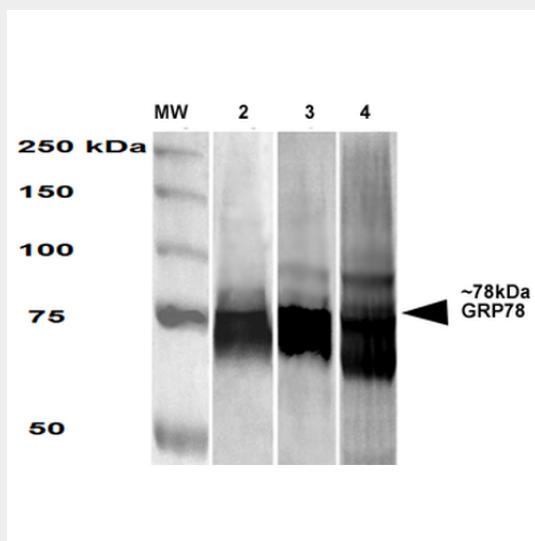
- Western Blot

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

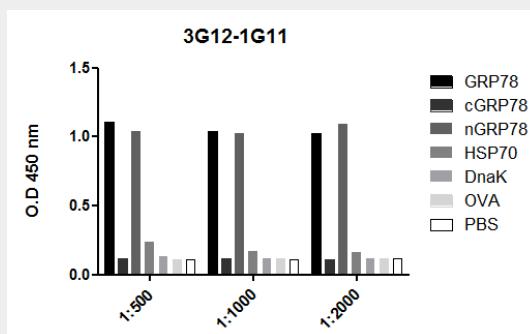
GRP78 Antibody - Images



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.



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 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' 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.