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GRP78 Antibody
GRP78 Antibody, Clone 6H4-2G7
Catalog # ASM10144

Specification

GRP78 Antibody - Product Information

Application	**WB**
Primary Accession	P20029
Other Accession	NP_001156906.1
Host	**Mouse**
Isotype	**IgG1**
Reactivity	**Human, Mouse, Rat, Rabbit, Hamster, Monkey, Xenopus, Bovine, Fungi**
Clonality	**Monoclonal**
Format	**ATTO 390**

Description
Mouse Anti-Human GRP78 Monoclonal IgG1

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 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, HSCe70 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	**-20ºC**

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

Shipping Temperature	**Blue Ice or 4ºC**

Certificate of Analysis
0.5 µg/ml of SMC-196 was sufficient for detection of Grp78 in 10 µg of HeLa cell lysate by ECL immunoblot analysis.

Cellular Localization
Endoplasmic Reticulum | Endoplasmic Reticulum Lumen | Melanosome

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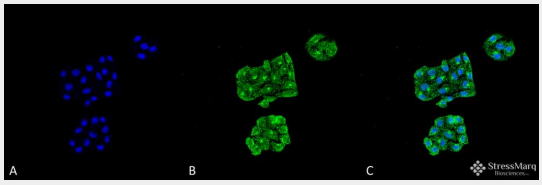
GRP78 Antibody - Protocols

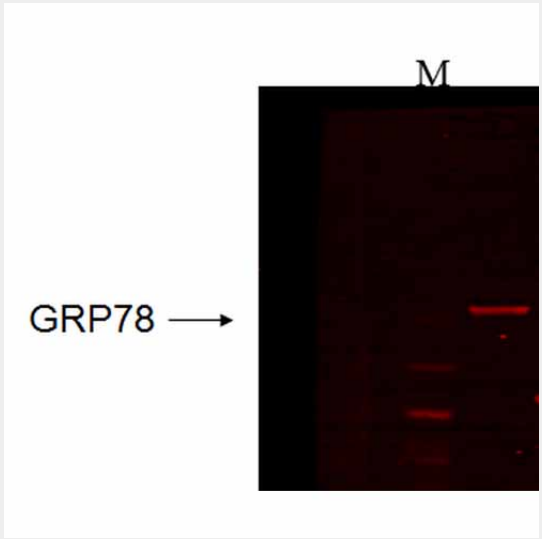
Provided below are standard protocols that you may find useful for product applications.

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

GRP78 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-GRP78 Monoclonal Antibody, Clone 6H4-2G7 (ASM10144). Tissue: Cervical Cancer cell line (HeLa). Species: Human. Fixation: 4% Formaldehyde for 15 min at RT. Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10144) 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 recombinant cell lysate showing detection of GRP78 protein using Mouse Anti-GRP78 Monoclonal Antibody, Clone 6H4.2G7 (ASM10144). Primary Antibody: Mouse Anti-GRP78 Monoclonal Antibody (ASM10144) at 1:1000.

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' 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.