

**GRP94 Antibody**  
**GRP94 Antibody, Clone 9G10**  
**Catalog # ASM10004**

**Specification**

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**GRP94 Antibody - Product Information**

Application	<b>WB</b>
Primary Accession	<a href="#">P14625</a>
Other Accession	<a href="#">NP_003290.1</a>
Host	<b>Rat</b>
Isotype	<b>IgG2a</b>
Reactivity	<b>Human, Mouse, Rat, Rabbit, Hamster, Monkey, Pig, Chicken, Xenopus, Bovine, Sheep, Horse, Guinea Pig, Dog</b>
Clonality	<b>Monoclonal</b>

**Description**  
Rat Anti-Chicken GRP94 Monoclonal IgG2a

**Target/Specificity**

Detects ~98kDa. Does not detect human HSP90, Grp74, or GrpE from E.coli.

**Other Names**

HSP90B1 Antibody, GP96 Antibody, TRA1 Antibody, ECGP Antibody

**Immunogen**

Purified Grp94 isolated from chicken oviducts

**Purification**

Protein G Purified

Storage **-20°C**

**Storage Buffer**

PBS pH7.2, 50% glycerol, 0.09% sodium azide

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

**Certificate of Analysis**

0.5 µg/ml of SMC-105 was sufficient for detection of Grp94 in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-rat IgG:HRP as the secondary antibody.

**Cellular Localization**

Endoplasmic Reticulum| Endoplasmic Reticulum Lumen | Melanosome

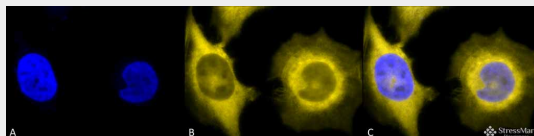
**GRP94 Antibody - Protocols**

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

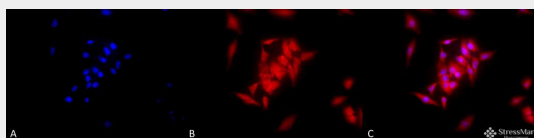
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

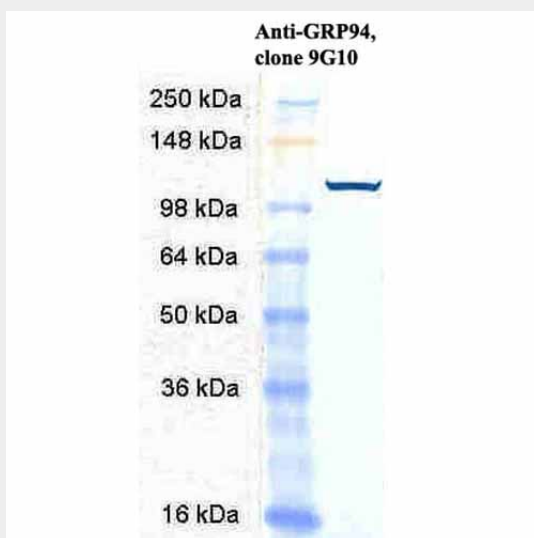
### GRP94 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Rat Anti-GRP94 Monoclonal Antibody, Clone 9G10 (ASM10004). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rat Anti-GRP94 Monoclonal Antibody (ASM10004) at 1:100 for 12 hours at 4°C. Secondary Antibody: R-PE Goat Anti-Rat (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. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-GRP94 Antibody. (C) Composite.



Immunocytochemistry/Immunofluorescence analysis using Rat Anti-GRP94 Monoclonal Antibody, Clone 9G10 (ASM10004). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rat Anti-GRP94 Monoclonal Antibody (ASM10004) at 1:100 for 12 hours at 4°C. Secondary Antibody: APC Goat Anti-Rat (red) 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-GRP94 Antibody. (C) Composite.



Western Blot analysis of Human HeLa cell lysates showing detection of GRP94 protein using Rat Anti-GRP94 Monoclonal Antibody, Clone 9G10 (ASM10004). Primary Antibody: Rat Anti-GRP94 Monoclonal Antibody (ASM10004) at 1:1000. Secondary Antibody: HRP Goat Anti-Rat.

### GRP94 Antibody - Background

Grp94 (glucose regulated protein 94, gp96) is a constitutively expressed endoplasmic reticulum (ER) luminal protein that is up-regulated in response to cellular stress such as heat shock, oxidative stress or glucose depletion. Grp94 is thought to play a role in protein translocation to the ER, in their subsequent folding and assembly, and in regulating protein secretion (1). Grp94 also plays a role in antigen presentation by accessing the endogenous pathway and eliciting specific CTL responses to chaperone bound peptides via MHC class I pathway (2). Grp94 is a member of the HSP90 family of stress proteins and shares sequence homology with its cytosolic equivalent, HSP90 (3). Both HSP90 and Grp94 are calcium binding proteins (4). Despite sharing 50% sequence homology over its N domains and complete conservation in its ligand binding domains with HSP90, Grp94 and HSP90 differ in their interactions with regulatory ligands as Grp94 has weak ATP binding and hydrolysis activity (5).

Grp94 exists as a homodimer and the two subunits interact at two distinct intermolecular sites, C terminal dimerization domains and the N-terminal interacts with the middle domain of opposing subunits (6). Grp94 contains a carboxy terminal KDEL (Lys-Asp-Glu-Leu) sequence which is believed to aid in its retention in the ER (7).

### **GRP94 Antibody - References**

1. Rudolph R.W., and Bedows E. (1997) J Biol Chem 272: 3125-3128.
2. Srivastava P.K., et al. (1994) Immunogenetics. 39(2):93-98.
3. Mazzarella R.A., and Green M. (1987) J Biol Chem 262:8875-8883.
4. Kang, H.S. and Welch W.J. (1991) J Biol Chem 266(9):5643-5649.
5. Soldano K.L., et al. (2003) J Biol Chem 278(48): 48330-48338.
6. Chu F., et al. (2006) Protein Sci 15(6): 1260-1269.
7. Peter F., et al., (1992) J Biol Chem 267: 10631-10637.
8. Allen S. et al. (2000) Blood 96(2): 560-568.
9. Sato K et al. (2001) Blood 98(6): 1852-1857.
10. Yun S.-W. et al (2000) Brain Research Bulletin.52(5):371-378.
11. Choukhi A., et al. (1998) J. Virol. 72: 3851-3858.
12. Hoshino T., et al. (1998) Blood 91(11): 4379-4386.
13. Riera M. et al. (1999) Mol. Cell Biochem. 191: 97-104.
14. Gusarova V., et al. (2001) J. Biol. Chem. 276(27): 24891-24900.