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Anti-Grp75 Antibody [S52A-42]

Mouse Anti-Mouse Grp75 Monoclonal IgG1
Catalog No. SMC-133



Discovery through partnership | Excellence through quality

Overview

Product Name

Grp75 Antibody

Description

Mouse Anti-Mouse Grp75 Monoclonal IgG1

Species Reactivity

Human, Mouse, Rat, Nematode (Caenorhabditis elegans)

Applications

WB, IHC, ICC/IF, IP, ELISA

Antibody Dilution

WB (1:1000), ICC/IF (1:200); optimal dilutions for assays should be determined by the user.

Host Species

Mouse

Immunogen Species

Mouse

Immunogen

Fusion protein amino acids 551-766 of mouse SALM2.

Concentration

1 mg/ml

Conjugates

Alkaline Phosphatase, APC, ATTO 390, ATTO 488, ATTO 565, ATTO 594, ATTO 633, ATTO 655, ATTO 680, ATTO 700, Biotin, FITC, HRP, PE/ATTO 594, PerCP, RPE, Streptavidin, Unconjugated

Properties

Storage Buffer

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

Storage Temperature

-20°C

Shipping Temperature

Blue Ice or 4°C

Purification

Protein G Purified

Clonality

Monoclonal

Clone Number

S52A-42

Isotype

IgG1

Specificity

Detects ~75kDa.

Cite This Product

Mouse Anti-Mouse GRP75 Monoclonal, Clone S52A-42 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-133)

Certificate Of Analysis

1 µg/ml was sufficient for detection of Grp75 in 10 µg of heat shock HeLa lysate by colorimetric immunoblot analysis using Goat Anti-Mouse IgG:HRP as the secondary.

Biological Description

Alternative Names

HSC74 Antibody, HSP74 Antibody, HSPA9 Antibody, HSPa9a Antibody, HSPA9B Antibody, Mortalin 2 Antibody, MOT2 Antibody, PBP74 Antibody

Research Areas

Cancer, Heat Shock, Alzheimer's Disease, Cell Signaling, Neurodegeneration, Neuroscience, Parkinson's Disease, Trafficking

Cellular Localization

Mitochondrion

Accession Number

NP_004125.3

Gene ID

3313

Swiss Prot

P38646

Scientific Background

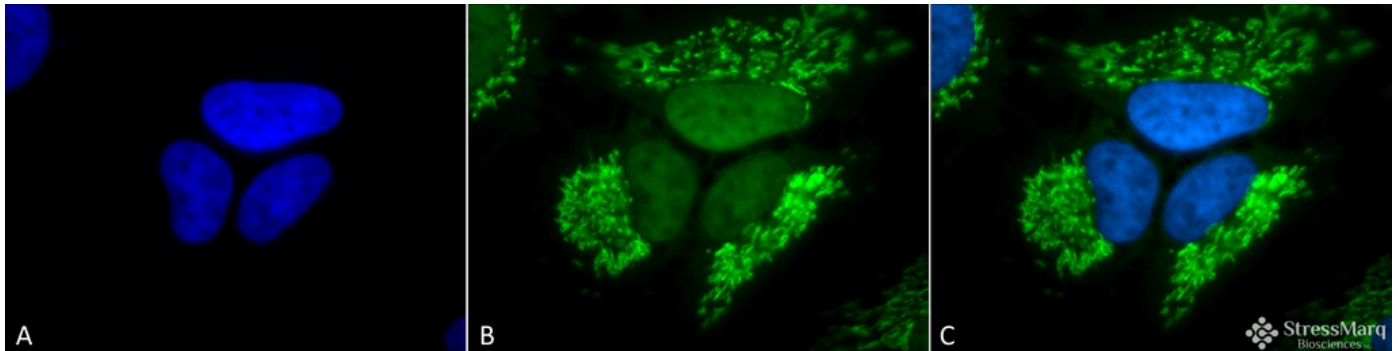
Grp75, also known as mortalin, is a member of HSP70 family of chaperone proteins that is not heat inducible (1, 2). Grp75 is actually induced under conditions of low glucose and other nutritional and environmental stresses. Grp75 resides primarily in the mitochondrial matrix, where it collaborates with HSP60 in the re-folding of proteins translocated into this organelle (3, 4). Related forms may also be found in the cytosol or on the surface of the extracellular membrane.

Other Grp75 functions include its ability to inactivate the tumor suppressor p53 (5). Studies have found that Grp75 is over-expressed in many tumor tissues and immortalized human cell lines, suggesting its role in the tumor formation (6). Grp75 is also implicated in cell aging, as its overexpression appears to prolong the life span of human fibroblasts (7). And finally, like its E.coli homolog DnaK (8), GRP75 possesses a cation-dependent ATPase activity considered central to its function as a chaperone (9, 10).

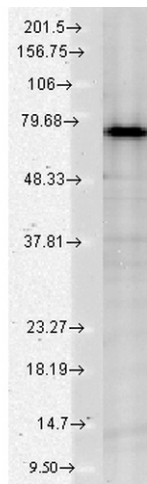
References

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2. Wadhwa R., et al. (1993) *J Biol Chem* 268: 6615-6621.
3. Schneider H.C., et al. (1994) *Nature* 371: 768-774.
4. Manning-Krieg U.C., et al. (1991) *EMBO J.* 10: 3273-3280.
5. Wadhwa R., et al. (1998) *J Biol Chem.* 273: 29586-91.
6. Wadhwa R., et al. (2006) *Int J Cancer* 118: 2973-2980.
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10. Leustek U.K., et al. (1989) *PNAS USA.* 86: 7805-7808.

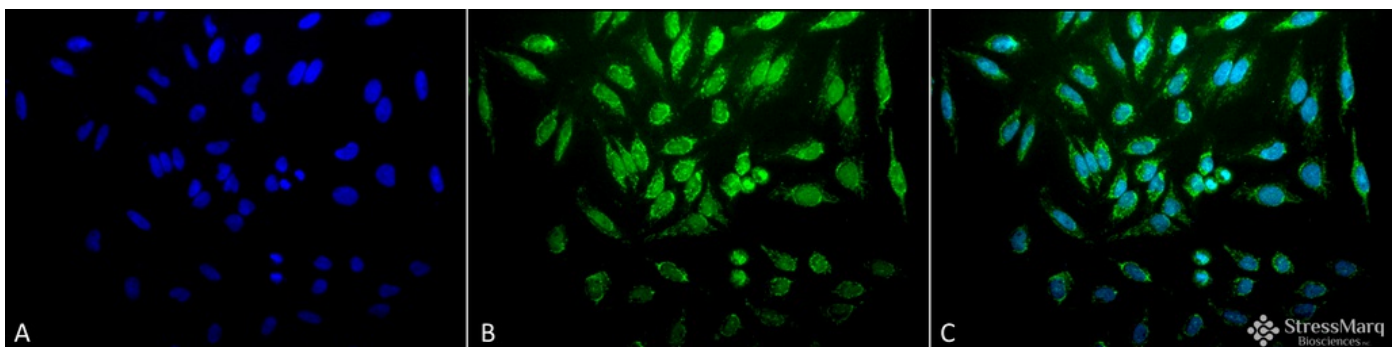
Product Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Grp75 Monoclonal Antibody, Clone S52A-42 (SMC-133). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Mouse Anti-Grp75 Monoclonal Antibody (SMC-133) 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: Mitochondria. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-Grp75 Antibody. (C) Composite.



Western Blot analysis of Human HeLa cell lysates showing detection of Grp75 protein using Mouse Anti-Grp75 Monoclonal Antibody, Clone S52A-42 (SMC-133). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Grp75 Monoclonal Antibody (SMC-133) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Grp75 Monoclonal Antibody, Clone S52A-42 (SMC-133). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Mouse Anti-Grp75 Monoclonal Antibody (SMC-133) 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: Mitochondria. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-Grp75 Antibody. (C) Composite.

Product Citations (4)

Western Blot

Regulation of Complement-Dependent Cytotoxicity by MicroRNAs miR-200b, miR-200c, and miR-217.

Hillman, Y., Mazkereth, N., Farberov, L., Shomron, N. and Fishelson, Z. (2016) J Immunol. [Epub ahead of print]

PubMed ID: **Reactivity:** Human **Applications:** Western Blot

Mortalin/Grp75 Binds to Complement C9 and Plays a Role in Resistance to Complement-Dependent Cytotoxicity.

Saar Ray, M., Moskovich, O., Iosefson, O., Fishelson Z. (2014) J Biol Chem. 289(21):15014-22.

PubMed ID: 24719326 **Reactivity:** Human **Applications:** Western Blot

ELISA

Elevated levels of mitochondrial mortalin and cytosolic HSP70 in blood as risk factors in colorectal cancer patients.

Rozenberg, P., Kocsis, J., Saar, M., Prohászka, Z., Füst, G., and Fishelson, Z. (2013) Int J Cancer. 133 (2): 514-518.

PubMed ID: 23319326 **Reactivity:** Human **Applications:** ELISA

Immunocytochemistry/Immunofluorescence

Mortalin/Grp75 Binds to Complement C9 and Plays a Role in Resistance to Complement-Dependent Cytotoxicity.

Saar Ray, M., Moskovich, O., Iosefson, O., Fishelson Z. (2014) J Biol Chem. 289(21):15014-22.

PubMed ID: 24719326 **Reactivity:** Human **Applications:** Immunocytochemistry/Immunofluorescence

Reviews

Based on validation through cited publications.



StressMarq Biosciences

June 14, 2016: