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Anti-Grp75 Antibody
Catalog # ABO11097

Specification

Anti-Grp75 Antibody - Product Information

Application	**WB, IHC-P, IHC-F, ICC**
Primary Accession	P38646
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Stress-70 protein, mitochondrial(HSPA9) detection. Tested with WB, IHC-P, IHC-F, ICC in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Grp75 Antibody - Additional Information

Gene ID 3313

Other Names
Stress-70 protein, mitochondrial, 75 kDa glucose-regulated protein, GRP-75, Heat shock 70 kDa protein 9, Mortalin, MOT, Peptide-binding protein 74, PBP74, HSPA9, GRP75, HSPA9B, mt-HSP70

Calculated MW
73680 MW KDa

Application Details
Immunocytochemistry , 0.5-1 µg/ml, Human, Mouse, Rat
Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Rat, Human, Mouse
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization
Mitochondrion . Nucleus, nucleolus .

Protein Name
Stress-70 protein, mitochondrial

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human Grp75(591-609aa DTETKMEEFKDQLPADECN), identical to the related rat and mouse sequences.

Purification

Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage

At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities
Belongs to the heat shock protein 70 family.

Anti-Grp75 Antibody - Protein Information

Name HSPA9 (HGNC:5244)

Function
Mitochondrial chaperone that plays a key role in mitochondrial protein import, folding, and assembly. Plays an essential role in the protein quality control system, the correct folding of proteins, the re-folding of misfolded proteins, and the targeting of proteins for subsequent degradation. These processes are achieved through cycles of ATP binding, ATP hydrolysis, and ADP release, mediated by co-chaperones (PubMed:18632665, PubMed:25615450, PubMed:28848044, PubMed:30933555, PubMed:31177526). In mitochondria, it associates with the TIM (translocase of the inner membrane) protein complex to assist in the import and folding of mitochondrial proteins (By similarity). Plays an important role in mitochondrial iron-sulfur cluster (ISC) biogenesis, interacts with and stabilizes ISC cluster assembly proteins FXN, NFU1, NFS1 and ISCU (PubMed:26702583). Regulates erythropoiesis via stabilization of ISC assembly (PubMed:21123823, PubMed:26702583). Regulates mitochondrial calcium-dependent apoptosis by coupling two calcium channels, ITPR1 and VDAC1, at the mitochondria- associated endoplasmic reticulum (ER) membrane to facilitate calcium transport from the ER lumen to the mitochondria intermembrane space, providing calcium for the downstream calcium channel MCU, which releases it into the mitochondrial matrix (By similarity). Although primarily located in the mitochondria, it is also found in other cellular compartments. In the cytosol, it associates with proteins involved in signaling, apoptosis, or senescence. It may play a role in cell cycle regulation via its interaction with and promotion of degradation of TP53 (PubMed:24625977, PubMed:26634371). May play a role in the control of cell proliferation and cellular aging (By similarity). Protects against reactive oxygen species (ROS) (By similarity). Extracellular HSPA9 plays a cytoprotective role by preventing cell lysis following immune attack by the membrane attack complex by disrupting formation of the complex (PubMed:16091382).

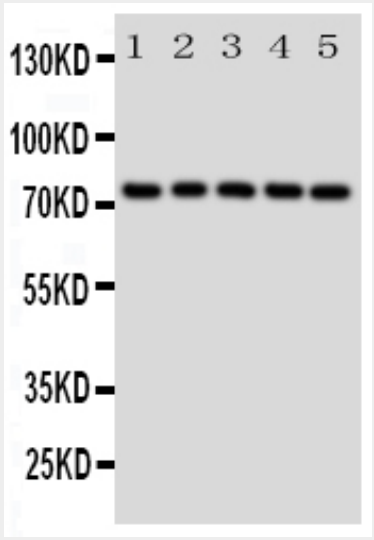
Cellular Location
Mitochondrion. Nucleus, nucleolus. Cytoplasm. Mitochondrion matrix {ECO:0000250|UniProtKB:P48721}. Note=Found in a complex with HSPA9 and VDAC1 at the endoplasmic reticulum-mitochondria contact sites {ECO:0000250|UniProtKB:P48721}

Anti-Grp75 Antibody - Protocols

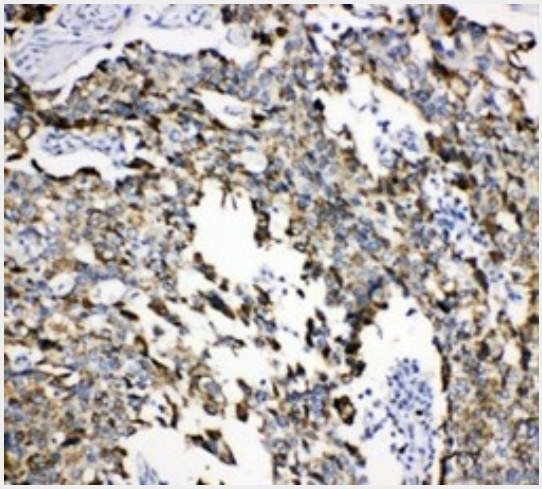
Provided below are standard protocols that you may find useful for product applications.

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

Anti-Grp75 Antibody - Images



Anti-Grp75 antibody, ABO11097, Western blottingAll lanes: Anti Grp75 (ABO11097) at 0.5ug/mlLane 1: Rat Liver Tissue Lysate at 50ugLane 2: A549 Whole Cell Lysate at 40ugLane 3: 293T Whole Cell Lysate at 40ugLane 4: M431 Whole Cell Lysate at 40ugLane 5: COLO320 Whole Cell Lysate at 40ugPredicted bind size: 74KDObserved bind size: 74KD



Anti-Grp75 antibody, ABO11097, IHC(P)IHC(P): Human Lung Cancer Tissue

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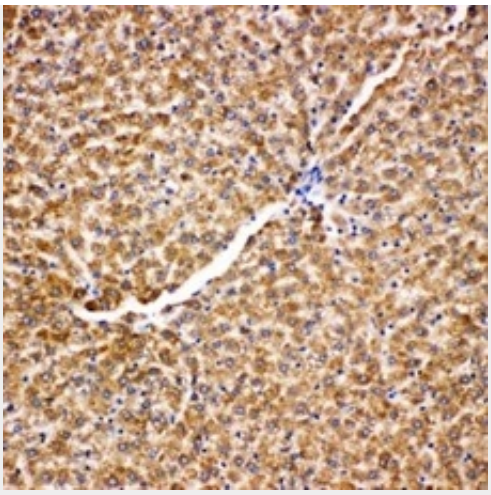
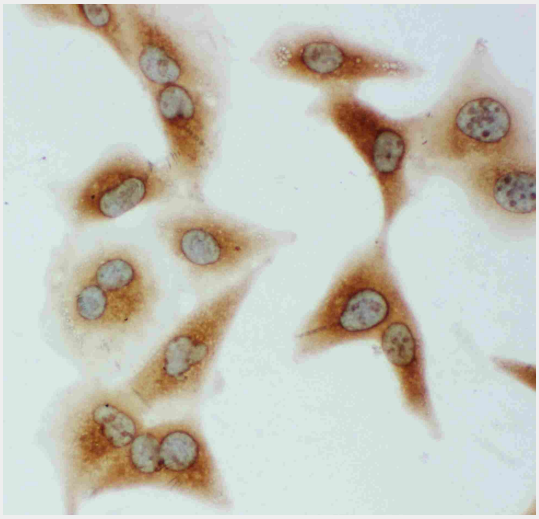


Anti-Grp75 antibody, ABO11097, IHC(P)IHC(P): Rat Liver Tissue



Anti-Grp75 antibody, ABO11097, ICCICC: A549 Cell

Anti-Grp75 Antibody - Background

HSPA9(heat shock 70kDa protein 9 (mortalin)),also known as GRP75, mot-2, mthsp75, PBP74, HSPA9B, MORTALIN or MORTALIN, PERINUCLEAR, is a highly conserved member of the HSP70 family of proteins. It functions as a chaperone in the mitochondria, cytoplasm, and centrosome. TheÂ HSPA9Â geneÂ is mapped to chromosome 5q31.2 based on an alignment of theÂ HSPA9Â sequence with the genomic sequence. Knockdown ofÂ HSPA9Â in erythroid cultures was associated with an increased number of cells in the G0/G1 phase of the cell cycle and accelerated apoptosis. Knockdown ofÂ Hspa9Â in mouse bone marrow cells, followed by transplantation into wildtype recipients, also resulted in loss of erythroid cell number. Haploinsufficiency forÂ HSPA9Â may contribute to abnormal hematopoiesis in myelodysplastic syndromes. This protein plays a role in the control of cell proliferation.