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KD-Validated Anti-Grp75 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1292

Specification

KD-Validated Anti-Grp75 Rabbit Monoclonal Antibody - Product Information

Application	**WB, ICC**
Primary Accession	P38646
Reactivity	**Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 74 kDa , observed, 74 kDa KDa**
Gene Name	**HSPA9**
Aliases	**HSPA9; Heat Shock Protein Family A (Hsp70) Member 9; GRP75; PBP74; 75 KDa Glucose-Regulated Protein; Stress-70 Protein, Mitochondrial; HSPA9B; Heat Shock 70kDa Protein 9 (Mortalin); Peptide-Binding Protein 74; Mortalin2; Mortalin; MTHSP75; GRP-75; MOT; Epididymis Secretory Sperm Binding Protein Li 124m; Heat Shock 70kDa Protein 9B (Mortalin-2); Catecholamine-Regulated Protein 40; Heat Shock 70 KDa Protein 9; Heat Shock 70kD Protein 9B; Mortalin, Perinuclear; P66-Mortalin; HEL-S-124m; Mortalin-2; Mt-HSP70; Mthsp75; SIDBA4; Mot-2; CRP40; EVPLS; MOT-2; MOT2; SAAN; CSA**
Immunogen	**A synthesized peptide derived from human Grp75**

KD-Validated Anti-Grp75 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**3313**

Other Names
Stress-70 protein, mitochondrial, 3.6.4.10, 75 kDa glucose-regulated protein, GRP-75, Heat shock 70 kDa protein 9, Heat shock protein family A member 9, Mortalin, MOT, Peptide-binding protein 74, PBP74, HSPA9 (HGNC:5244)

KD-Validated Anti-Grp75 Rabbit Monoclonal 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}

KD-Validated Anti-Grp75 Rabbit Monoclonal 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

KD-Validated Anti-Grp75 Rabbit Monoclonal Antibody - Images

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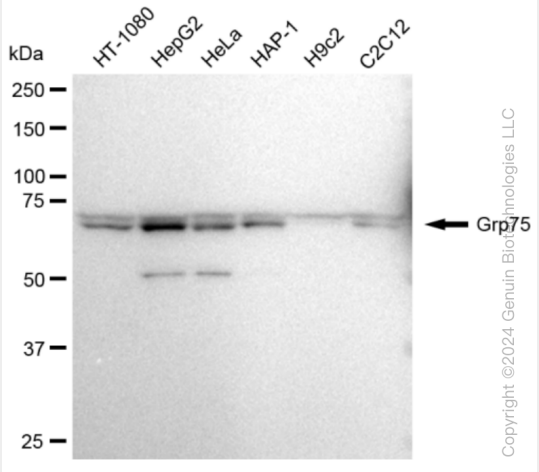
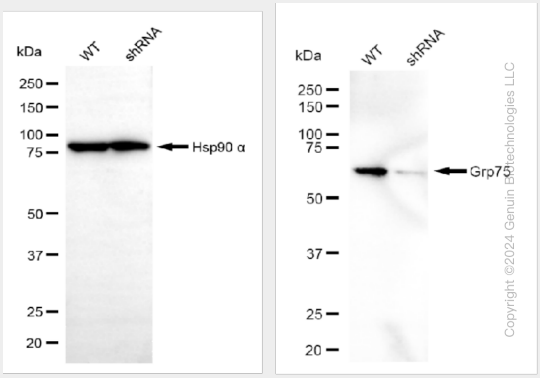
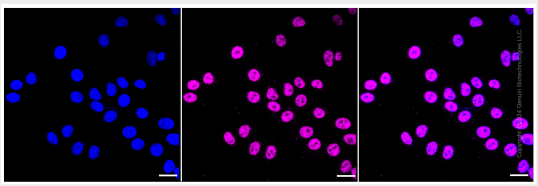


Western blotting analysis using anti-Grp75 antibody (Cat#AGI1292). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Grp75 antibody (Cat#AGI1292, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-Grp75 antibody (Cat#AGI1292). Grp75 expression in wild type (WT) and Grp75 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-Grp75 antibody (Cat#AGI1292, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Immunocytochemical staining of HepG2 cells with Grp75 antibody (Cat#AGI1292, 1:1,000). Nuclei were stained blue with DAPI; Grp75 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.