10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KD-Validated Anti-Grp75 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1292

Product Information

Application	WB, ICC
Primary Accession	P38646
Reactivity	Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB 2615
Calculated MW	73680
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

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)

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}

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