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HSPA9 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10160c

Product Information

Application	WB, E
Primary Accession	P38646
Other Accession	P48721, P38647, O35501, Q3ZCH0, NP_004125.3
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Hamster, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB22801
Calculated MW	73680
Antigen Region	273-301

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
Target/Specificity	This HSPA9 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 273-301 amino acids from the Central region of human HSPA9.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HSPA9 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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}

Background

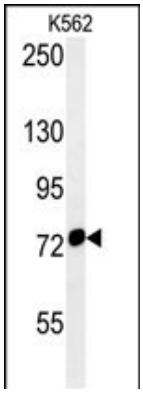
This gene encodes a member of the heat shock protein 70 gene family. The encoded protein is primarily localized to the mitochondria but is also found in the endoplasmic reticulum, plasma membrane and cytoplasmic vesicles. This protein is a heat-shock cognate protein. This protein plays a role in cell proliferation, stress response and maintenance of the mitochondria. A pseudogene of this gene is found on chromosome 2.

References

Li, Y., et al. Environ. Health Perspect. 118(7):936-942(2010)
Luo, W.I., et al. Protein Expr. Purif. 72(1):75-81(2010)
Goswami, A.V., et al. J. Biol. Chem. 285(25):19472-19482(2010)
Iosefson, O., et al. FEBS Lett. 584(6):1080-1084(2010)
Rikova, K., et al. Cell 131(6):1190-1203(2007)

Images

HSPA9 Antibody (Center) (Cat. #AP10160c) western blot analysis in K562 cell line lysates (35ug/lane).This demonstrates the HSPA9 antibody detected the HSPA9 protein (arrow).



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