

# Anti-GRP75 Antibody

Catalog # AP53684

## **Product Information**

ApplicationWB, IFPrimary AccessionP38646Other AccessionQ8N1C8

**Reactivity** Human, Mouse, Rat

Host Rabbit
Clonality Polyclonal
Calculated MW 73680

### **Additional Information**

**Gene ID** 3313

Other Names HSPA9; GRP75; HSPA9B; Stress-70 protein, mitochondrial; 75 kDa

glucose-regulated protein; GRP-75; Heat shock 70 kDa protein 9; Mortalin;

MOT; Peptide-binding protein 74; PBP74

**Target/Specificity** Recognizes endogenous levels of GRP75 protein.

**Dilution** WB~~1/500 - 1/1000 IF~~1/50 - 1/200

Format Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30%

glycerol, and 0.09% (W/V) sodium azide.

**Storage** Store at -20 °C.Stable for 12 months from date of receipt

#### **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:<u>18632665</u>, PubMed:<u>25615450</u>, PubMed:<u>28848044</u>, PubMed:<u>30933555</u>,

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).

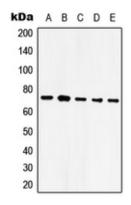
#### **Cellular Location**

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}

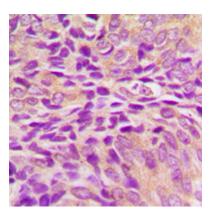
# **Background**

Rabbit polyclonal antibody to GRP75

# **Images**

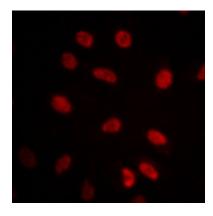


Western blot analysis of GRP75 expression in HeLa (A), NIH3T3 (B), SP2/0 (C), mouse brain (D), rat brain (E) whole cell lysates.



Immunohistochemical analysis of GRP75 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Immunofluorescent analysis of GRP75 staining in NIH3T3 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber.



Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark.

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