

GRP 75 (H-155): sc-13967

BACKGROUND

The HSP 70 family comprises four highly conserved proteins, HSP 70, HSC 70, GRP 75 and GRP 78, which serve a variety of roles. They act as molecular chaperones facilitating the assembly of multi-protein complexes, participate in the translocation of polypeptides across cell membranes and to the nucleus, and aid in the proper folding of nascent polypeptide chains. HSC 70, GRP 75 and GRP 78 are constitutively expressed in primate cells. HSP 70 expression is strongly induced in response to heat stress. HSP 70 and HSC 70, which are found in both the cytosol and nucleus of mammalian cells, play key roles in the cytosolic endoplasmic reticulum and mitochondrial import machinery. They are involved in chaperoning nascent polypeptide chains and in protecting cells against the accumulation of improperly folded proteins. GRP 75 and GRP 78 are unresponsive to heat stress and are induced by glucose deprivation. GRP 75 expression is restricted to the mitochondrial matrix and aids in the translocation and folding of nascent polypeptide chains of both nuclear and mitochondrial origin. GRP 78 is localized in the endoplasmic reticulum, where it receives imported secretory proteins and is involved in the folding and translocation of nascent peptide chains. Research indicates that members of the HSP 70 family may act as force-generating motors, relying on the hydrolysis of ATP for their activity.

CHROMOSOMAL LOCATION

Genetic locus: HSPA9 (human) mapping to 5q31.2; Hspa9 (mouse) mapping to 18 B1.

SOURCE

GRP 75 (H-155) is a rabbit polyclonal antibody raised against amino acids 525-679 of GRP 75 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GRP 75 (H-155) is recommended for detection of GRP 75 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GRP 75 (H-155) is also recommended for detection of GRP 75 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GRP 75 siRNA (h): sc-35520, GRP 75 siRNA (m): sc-35521, GRP 75 shRNA Plasmid (h): sc-35520-SH, GRP 75 shRNA Plasmid (m): sc-35521-SH, GRP 75 shRNA (h) Lentiviral Particles: sc-35520-V and GRP 75 shRNA (m) Lentiviral Particles: sc-35521-V.

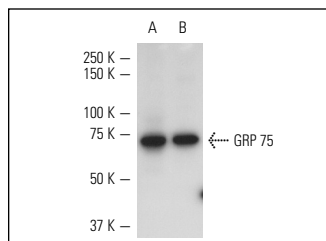
Molecular Weight of GRP 75: 75 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or Jurkat whole cell lysate: sc-2204.

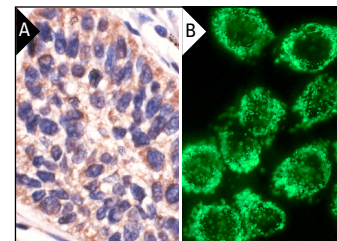
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



GRP 75 (H-155): sc-13967. Western blot analysis of GRP 75 expression in HeLa (A) and NIH/3T3 (B) whole cell lysates.



GRP 75 (H-155): sc-13967. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tumor tissue showing cytoplasmic localization (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (B).

SELECT PRODUCT CITATIONS

- Mukamel, Z., et al. 2004. Death-associated protein 3 localizes to the mitochondria and is involved in the process of mitochondrial fragmentation during cell death. *J. Biol. Chem.* 279: 36732-36738.
- Zhong, J., et al. 2011. The interactome of a PTB domain-containing adapter protein, Odin, revealed by SILAC. *J. Proteomics* 74: 294-303.
- Ijiri, T.W., et al. 2011. Identification and validation of mouse sperm proteins correlated with epididymal maturation. *Proteomics* 11: 4047-4062.
- Lu, W.J., et al. 2011. Mortalin-p53 interaction in cancer cells is stress dependent and constitutes a selective target for cancer therapy. *Cell Death Differ.* 18: 1046-1056.
- Schmidt, S., et al. 2011. Genetic mouse models for Parkinson's disease display severe pathology in glial cell mitochondria. *Hum. Mol. Genet.* 20: 1197-1211.
- Bondia-Pons, I., et al. 2011. Liver proteome changes induced by a short-term high-fat sucrose diet in wistar rats. *J. Nutrigenet. Nutrigenomics* 4: 344-353.
- Rovetta, F., et al. 2013. Cobalt triggers necrotic cell death and atrophy in skeletal C2C12 myotubes. *Toxicol. Appl. Pharmacol.* 271: 196-205.
- Baldelli, S., et al. 2014. PGC-1α buffers ROS-mediated removal of mitochondria during myogenesis. *Cell Death Dis.* 5: e1515.

RESEARCH USE

For research use only, not for use in diagnostic procedures.


 MONOS
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