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Hsp70 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10074

Specification

Hsp70 Antibody - Product Information

Application	**WB**
Primary Accession	P54652
Reactivity	**Human, Mouse, Rat, Rabbit, Hamster, Monkey, Bovine**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**70021**

Hsp70 Antibody - Additional Information

Gene ID 3306

Application & Usage	**Western blot analysis (1-2 µg/ml). However, the optimal conditions should be determined individually. The antibody is specific for the inducible form of Hsp70 (Hsp72) and does not cross-react with the constitutive Hsc70 (Hsc73).**

Other Names
HSPA4, APG2, APG-2, HSP70RY, HS24/P52, MGC131852 , hsp70RY

Target/Specificity
Hsp70

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 1% BSA, 0.02% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
Hsp70 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Hsp70 Antibody - Protein Information

Name HSPA2

Function
Molecular chaperone implicated in a wide variety of cellular processes, including protection of the proteome from stress, folding and transport of newly synthesized polypeptides, activation of proteolysis of misfolded proteins and the formation and dissociation of protein complexes. Plays a pivotal role in the protein quality control system, ensuring the correct folding of proteins, the re-folding of misfolded proteins and controlling the targeting of proteins for subsequent degradation. This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones. The affinity for polypeptides is regulated by its nucleotide bound state. In the ATP-bound form, it has a low affinity for substrate proteins. However, upon hydrolysis of the ATP to ADP, it undergoes a conformational change that increases its affinity for substrate proteins. It goes through repeated cycles of ATP hydrolysis and nucleotide exchange, which permits cycles of substrate binding and release (PubMed:26865365). Plays a role in spermatogenesis. In association with SHCBP1L may participate in the maintenance of spindle integrity during meiosis in male germ cells (By similarity).

Cellular Location
Cytoplasm, cytoskeleton, spindle {ECO:0000250|UniProtKB:P17156}. Note=Colocalizes with SHCBP1L at spindle during the meiosis process. {ECO:0000250|UniProtKB:P17156}

Hsp70 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

Hsp70 Antibody - Images

Hsp70 Antibody - Background

Hsp70, one class of stress proteins, is comprised of multiple members, all of which bind ATP in vitro, but are localized within different intracellular compartments. These include: a) the constitutive Hsc70 (or cognate) present within the cytosol/nucleus; b) the highly stress-inducible Hsp70 present within the cytosol/ nucleus/nucleolus; c) the constitutive glucose regulated 78 kDa (or BiP) protein present within the lumen of the endoplasmic reticulum; and d) the glucose regulated 75 kDa protein present within the mitochondria. Hsp70 is typically not expressed in the cell under normal growth conditions, but is expressed at high levels in the cell experiencing stress. Consequently, detection of Hsp70 using an antibody specific for the inducible form is quite useful in ascertaining whether a stress response has occurred in the cell. It should be noted, however, that there is a constitutive level of Hsp70 expression in some cell types such as primates, e.g., human

and monkey. Nevertheless increased expression of Hsp70 is observed in such cells following stress.