

Product Information

Anti-HSP70 antibody produced in rabbit

IgG fraction of antiserum

Product Number **SAB4200797**

Product Description

Anti-HSP70 antibody is developed in rabbit using synthetic peptide corresponding to the internal region of human HSP70, conjugated to KLH as immunogen (GeneID: 3303/3304). The sequence is identical in most *Eukaryota* and *Archaea* species, and is highly similar to many bacteria species. Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of antiserum.

Anti-HSP70 antibody specifically recognizes human, mouse, rat, monkey, bovine, canine, and chicken HSP70. The antibody may be used in various immunochemical techniques including immunoblotting (~70 kDa) and immunoprecipitation. Detection of the HSP70 band by immunoblotting is specifically inhibited by the immunogen.

Heat Shock Proteins 70 (HSP70), also known as HSPA1A or HSPA1B, are a family of highly conserved proteins, which play a central role in a variety of biological stresses, including heat stress, in every organism in which the proteins have been examined. During heat shock, HSP70s concentrate in the cell nuclei and return to the cytoplasm when the shock is removed.¹

The human HSP70 family includes four members: the constitutive (or cognate) HSP73, the stress-inducible HSP72, the glucose regulated proteins grp78 (or BiP) and grp75.² HSP70s assist in a wide range of folding processes, including the folding and assembly of newly synthesized proteins, refolding of misfolded and aggregated proteins, membrane translocation of organellar and secretory proteins, and control of the activity of regulatory proteins.³ HSP70 is considered to play a cytoprotective role in neurodegenerative diseases such as Alzheimer's, Parkinson's, Huntington's, ALS and others.⁴ In addition, HSP70 levels are unregulated in several cancer types, such as malignant melanoma and renal cell cancer.⁵

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 1:250-1:500 is recommended using different cell extracts.

Immunoprecipitation: a working concentration of 10-20 µg/test is recommended using human HeLa cell extracts.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration test.

References

1. Velazquez, J.M., and Lindquist, S., *Cell*, **36**, 655-62 (1984).
2. Tavaría, M. et al., *Cell Stress Chaperones*, **1**, 23-8 (1996).
3. Mayer, M.P., and Bukau, B., *Cell Mol, Life Sci.*, **62**, 670-84 (2005).
4. Lu, R.C. et al., *Biomed. Res. Int.*, **2014**, 435203 (2014)
5. Lianos, G.D. et al., *Cancer Lett.*, **360**, 114-8 (2015)

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