

Product Information

Anti-Heat Shock Protein 70 (HSP70) antibody, Mouse monoclonal
clone BRM-22, purified from hybridoma cell culture

Product Number **SAB4200714**

Product Description

Anti-Heat Shock Protein 70 (HSP70) antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the BRM-22 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mouse immunized with purified bovine brain HSP70 (GeneID 3303). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Heat Shock Protein 70 (HSP70) specifically recognizes HSP70 from bovine, mouse, monkey, dog, human, rat, chicken, octopus¹, insects,² plant,³ fish,⁴ rabbit⁵ and Sea urchin⁶ origin. Monoclonal Anti-HSP70 is recommended for various immunochemical assays, including ELISA, Immunoblot (~70 kDa), Dot Blot, Immunofluorescence and Immunohistochemistry.²⁻⁹ In Immunoblot assay the antibody localizes both the constitutive (HSP73) and inducible (HSP72) forms of HSP70.

Heat Shock Proteins 70 or HSP70s, also known as HSPA1A, are the family of highly conserved proteins that are contained by 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.¹⁰ Human HSP70 family includes four members: the constitutive (or cognate) HSP73, the stress-inducible HSP72 and the glucose regulated proteins grp78 (or BiP) and grp75.¹¹ HSP70s assist 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.¹² HSP70 is considered to play a cytoprotective role in neurodegenerative diseases such as Alzheimer's, Parkinson's, Huntington's, ALS and others.¹³ In addition, HSP70 levels are unregulated in several cancer types, such as malignant melanoma and renal cell cancer.¹⁴

Reagent

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

Antibody Concentration: ~ 1.0 mg/mL

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 concentration of 0.25–0.5 µg/mL is recommended using HeLa cell line extract.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Nicosia A., et al., *BioMed Res Inter*, **2015**, ID 437328 (2015).
2. Lyytinen A., et al., *PLoS ONE*, **7**, e31446 (2012).
3. Wimmer B., et al., *Proc Natl Acad Sci USA*, **94**, 13624-9 (1997).
4. Purohit GK., et al., *BioMed Res Inter*, **2014**, ID 381719 (2012).
5. Manzerra P., et al., *J Cell Physiol*, **170**, 130-7 (1997).
6. Matranga V., et al., *Cell Stress Chaperones*, **5**, 113-20 (2000).

7. Vélez-Granell CS., et al., *J Cell Sci.*, **107**, 539-49 (1994).
8. Yin J., et al., *J Cell Mol Med.*, **16**, 337-48 (2012).
9. Jain K., et al., *Cell Stress Chaperones*, **19**, 801-12 (2014).
10. Velazquez, J., and Lindquist, S., *Cell*, **36**, 655-62 (1984).
11. Tavaría M., et al., *Cell Stress Chaperones*, **1**, 23-8 (1996).
12. Mayer MP. and Bukau B., *Cell Mol Life Sci.*, **62**, 670-84 (2005).
13. Lu RC., et al., *Biomed Res Int.*, **2014**, 435203 (2014)
14. Lianos GD., et al., *Cancer Lett.*, **360**, 114-8 (2015)

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