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Product Information

Anti-Heat Shock Protein 40 (HSP40)

Developed in Rabbit

Affinity Isolated Antibody

Product Number **H 4038**

Product Description

Anti-Heat Shock Protein 40 (HSP40) is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 323-339 of human HSP40, conjugated to KLH via an N-terminal added lysine residue. The peptide sequence differs from mouse in 3 amino acids. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Heat Shock Protein 40 (HSP40) reacts specifically with the HSP40 protein by immunoblotting (approx. 35 kDa). Specific staining of the HSP40 band by immunoblotting is inhibited by the HSP40 immunizing.

Heat shock proteins (HSPs) are a class of stress proteins, which includes Hsp20, Hsp60, Hsp70, Hsp40, Hsp90, and others.¹ Hsps participate in protein synthesis, protein folding, transport, and translocation processes. Heat shock proteins play a role in cellular processes such as apoptosis and regulation of the immune response.¹⁻³ HSP40, also known as DNAJB1, HSPF1, or HDJ1, is a 339 amino acid, stress-inducible heat shock protein, that is homologous to the bacterial heat shock protein DnaJ, and to the yeast DnaJ-related proteins such as SCJ1, Sec63/Np11, YDJ1, and SIS1.⁴ Bacterial DnaJ-heat-shock protein is known to function together with DnaK (hsp70) and GrpE as a molecular chaperone, involving them in assembly and disassembly of protein complexes, protein folding, renaturation of denatured protein, prevention of protein aggregation, and protein export.⁵ In heat-shocked cells, Hsp40 translocates from the cytoplasm to the nucleus and nucleoli, colocalizing with Hsp70.⁶ Hsp40 and Hsp70 have been implicated in reduction of protein aggregates produced in neurodegenerative diseases, such as Huntington's and Parkinson diseases.^{7,8} In brain tissues from Parkinson disease patients, it has been shown that Lewy bodies (LBs) and Lewy neurites (LNs) are immunopositive for Hsp70 and Hsp40 chaperones, suggesting that altered chaperone activity may be involved in progression of Parkinson disease.⁸

Reagent

Anti-Heat Shock Protein 40 (HSP40) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 1.0 mg/ml

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS 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. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 1-2 µg/ml is recommended using total extracts of NIH3T3-L1 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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