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ProductInformation

Anti-Heat Shock Protein 110 (Hsp110) (HD-19)
Developed in Rabbit
Affinity Isolated Antibody

Product Number **H 7287**

Product Description

Anti-Heat Shock Protein 110 (Hsp110) (HD-19) is developed in rabbit using as immunogen a synthetic peptide located at the C-terminus of mouse Hsp110 (amino acids 840-858), conjugated to KLH. This Hsp110 sequence is identical in Chinese hamster and highly conserved (2 amino acid substitutions) in human Hsp110. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Heat Shock Protein 110 (Hsp110) (HD-19) recognizes Hsp110 (110 kDa, may appear as a doublet band in some cell/tissue extracts). Applications include the detection of Hsp110 by immunoblotting and immunohistochemistry. Staining of the Hsp110 band in immunoblotting is specifically inhibited with the Hsp110 immunizing peptide (mouse, amino acids 840-858).

Heat shock proteins (Hsp) are a class of stress proteins, which includes Hsp20, Hsp60, Hsp70, and Hsp90. These proteins are considered to function as molecular chaperones by transiently binding to other proteins to facilitate their correct folding. Hsp110, (also termed Hsp105, Hsp-E7I), belongs to a family of large stress proteins referred to as the Hsp110/SSE family that includes the structurally related proteins Hsp110 and Hsp70RY.[1] The proteins in this family are distantly related to the Hsp70 family. Members of the Hsp110 family are significantly larger in size and contain sequences not present in members of the Hsp70 family. The mammalian Hsp110 protein has been cloned and found to share 30-33% amino acid identity with members of the Hsp70 family most of which occurs in the conserved ATP-binding domain. One of the most prominent structural elements of Hsp110 is a 100-amino acid α-helical loop found between the peptide-binding domain and the C-terminal α-helical region. Hsp110/Hsp105 exists as two alternatively spliced mouse isoforms originally termed Hsp105α and Hsp105β.[2-3]

Hsp110 function has been extensively characterized whereas the cellular role of Hsp70RY remains largely unknown. Hsp110 has been found to be a normal constituent of mammalian cells, ubiquitously expressed at varying levels in all mouse tissues, and highly expressed in brain.[2-4] It is induced by heat stress and its induction strongly correlates with the expression of thermotolerance *in vivo*.[1, 5, 6] In addition, Hsp110 has been associated with the nucleoli of non-stressed and heat-stressed murine cells.[7] Overexpression of Hsp110 has been shown to confer cellular heat resistance to prevent protein aggregation and to keep denaturated protein in a folding-competent state with an apparent greater capacity compared to Hsp70.[5] Hsp110 may play a role in the pathophysiology of brain damage such as ischemia/reperfusion injuries and pathological conditions such as Alzheimer's disease.

Reagent

Anti-Heat Shock Protein 110 (Hsp110) HD-19) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: approx. 1 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 prolonged storage, freeze in working aliquots at –20 °C. 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

For immunoblotting, a minimum working antibody concentration of 0.5-1 µg/ml is recommended using extracts of rat brain cytosolic fraction and whole cell extracts of the mouse fibroblast NIH3T3 cell line.

For immunohistochemistry, a minimum working antibody concentration of 2-4 µg/ml is recommended using formalin-fixed, paraffin-embedded sections of rat cerebellum.

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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