



Product Information

Anti-Hsp110

Developed in Rabbit
IgG Fraction of Antiserum

Product Number **H 7412**

Product Description

Anti-Hsp110 is developed in rabbit using as immunogen a synthetic peptide located near the C-terminus of human Hsp110 (amino acids 671-688) conjugated to KLH. This sequence is identical in mouse and Chinese hamster Hsp110. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins

Anti-Hsp110 recognizes Hsp110 (110 kDa, doublet bands). Applications include the detection of Hsp110 by immunoblotting and immunohistochemistry. Staining of Hsp110 in immunoblotting is specifically inhibited with the Hsp110 immunizing peptide (human, amino acids 671-688).

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 (110 kDa), (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 Hsp105 α and Hsp105 β .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 denatured 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 i.e. ischemia/reperfusion injuries and pathological conditions such as Alzheimer's disease.

Reagent

Anti-Hsp110 is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

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 dilution of 1:4,000 is recommended using a rat brain cytosolic extract and mouse NIH3T3 whole cell extract.

For immunohistochemistry, a minimum working antibody dilution of 1:500 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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