SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 10 (M1.4): sc-57839



BACKGROUND

The heat shock proteins (HSPs) comprise a group of highly conserved, abundantly expressed proteins with diverse functions, including the assembly and sequestering of multiprotein complexes, transportation of nascent polypeptide chains across cellular membranes and regulation of protein folding. Heat shock proteins (also known as molecular chaperones) fall into six general families: HSP 90, HSP 70, HSP 60, the low molecular weight HSPs, the immunophilins and the HSP 110 family. The low molecular weight family includes HSP 10, HSP 20, HSP 27, HSP 32 and HSP 40. HSP 10, a 102 amino acid protein, forms a heptameric ring of seven identical subunits. This ring binds at either end of HSP 60 to form a functional heterodimer.

REFERENCES

- Schlesinger, M.J., Ashburner, M. and Tissieres, A. 1982. Heat Shock: from Bacteria to Man. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory.
- Zeilstra-Ryalls, J., Fayet, O. and Georgopoulos, C. 1991. The universally conserved GroE (HSP 60) chaperonins. Annu. Rev. Microbiol. 45: 301-325.
- Ohtsuka, K. 1993. Cloning of a cDNA for heat-shock protein HSP 40, a human homologue of bacterial DnaJ. Biochem. Biophys. Res. Commun. 197: 235-240.
- 4. Georgopoulos, C. and Welch, W.J. 1993. Role of the major heat shock proteins as molecular chaperones. Annu. Rev. Cell Biol. 9: 601-634.
- Todd, M.J., Viitanen, P.V. and Lorimer, G.H. 1994. Dynamics of the chaperonin ATPase cycle: implications for facilitated protein folding. Science 265: 659-666.
- Massa, M., Passalia, M., Manzoni, S.M., Campanelli, R., Ciardelli, L., Yung, G.P., Kamphuis, S., Pistorio, A., Meli, V., Sette, A., Prakken, B., Martini, A. and Albani, S. 2007. Differential recognition of heat-shock protein DnaJderived epitopes by effector and Treg cells leads to modulation of inflammation in juvenile idiopathic arthritis. Arthritis Rheum. 56: 1648-1657.
- Cardillo, MR. and Ippoliti F. 2007. Interleukin-6, interleukin-10 and heat shock protein-90 expression in renal epithelial neoplasias and surrounding normal-appearing renal parenchyma. Int. J. Immunopathol. Pharmacol. 20: 37-46.
- Lin, CC., Tu, C.F., Yen, M.C., Chen, M.C., Hsieh, W.J., Chang, W.C., Chang, W.T. and Lai, M.D. 2007. Inhibitor of heat-shock protein 90 enhances the antitumor effect of DNA vaccine targeting clients of heat-shock protein. Mol. Ther. 15: 404-410.
- Kuboki, S., Schuster, R., Blanchard, J., Pritts, T.A., Wong, H.R., Lentsch, A.B. 2007. Role of heat shock protein 70 in hepatic ischemia-reperfusion injury in mice. Am. J. Physiol. Gastrointest. Liver Physiol. 292: G1141-G1149.

SOURCE

HSP 10 (M1.4) is a mouse monoclonal antibody raised against a synthetic MAP peptide corresponding to amino acids 54-69 based on *Chlamydia trachomatis* HSP 10.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 $\mu g~lgG_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HSP 10 (M1.4) is recommended for detection of HSP 10 of *C. trachomatis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; non cross-reactive with the human or mouse cpn10 homolog nor with *E. coli* GroES.

Molecular Weight of HSP 10: 10 kDa.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.