

Hsp25 Protein



TECHNICAL SPECIFICATIONS

350 – 4243 Glanford Ave., Victoria, BC Canada V8Z 4B9 Toll free 1.800.661.4978 Fax 250.744.2877 www.stressgen.com/reagents support@stressgen.com

Recombinant Murine Hsp25 Protein Product #: NSP-510

Scientific Background

Mouse Hsp25, human Hsp27, and $\alpha\beta$ -crystallin are part of a diverse family of small heat shock proteins (sHsps) which are produced in all organisms. The overall homology between the different sHsps is low and they are grouped together based on conserved sequences in the C-terminal half of the protein and short conserved phenylalanine-rich stretches near the N terminus. Mammalian sHsps are expressed constitutively under physiological conditions but stress factors such as heat shock induce a strong up-regulation of protein levels by 10-20-fold to maximum concentrations of 0.1% of the cellular protein. They function as chaperone-like proteins by binding unfolded polypeptides and preventing uncontrolled protein aggregation. sHsps all share the striking feature of forming high molecular weight oligomeric complexes of variable size. The quaternary structure of sHsps is essential for their function and regulation of activity but its basic properties are still rather poorly understood. Data indicates that Hsp25 is a dynamic tetramer of tetramers with a unique ability to refold and reassemble into its active quaternary structure after denaturation (1). Current studies demonstrate that Hsp25 helps facilitate the glutathione-redox cycle by enhancing glutathione utilization and maintaining the cellular glutathione pool in favor of the reduced states (2).

Application Note

If NSP-510 is to be used for Western blot analysis, we recommend that the material be diluted in an SDS containing sample buffer (e.g. Laemmli, U.K., {1970} Nature 277: 680-685) and heated at 100°C for 5 minutes prior to use. On a 15-well minigel system, 50ng-100ng of protein per lane should be sufficient when used with Stressgen antibody SPA-801.

References

1. Ehrnsperger, M., Lilie, H., Gaestel, M. and Buchner, J. (1999) *J. Biol. Chem.* **274**: 14867-14874.
2. Baek, S.H., Min, J.N., Park, E.M., Han, M.Y., Lee, Y.S., Lee, Y.J. and Park, Y.M. (2000) *J. Cell Physiol* **183**: 100-107.

Rev: 12/12/01

CERTIFICATE OF ANALYSIS

Hsp25 Protein

Product #: NSP-510

Lot #: B110406

Format: Purified recombinant murine Hsp25 in 1 x DPBS (2.7mM KCl, 1.5mM KH₂PO₄, 137mM NaCl and 8.1mM Na₂HPO₄).

Purity: This protein is >90% pure as determined by SDS-PAGE analysis.

Protein Concentration: 1.25 mg/mL

Certified by: C. Thind
Date: 12/12/01

QC by: P. Yi
Date: 11/09/01

STORAGE & SHIPPING: Store frozen product at or below -70°C. Thawed product may be stored for 2-4 weeks at 4°C. For optimal storage, aliquot to smaller portions and store at -70°C. Avoid repeated freeze/thaw cycles. For maximum product recovery, after thawing, centrifuge the product vial before removing cap. Shipped on gel packs.



FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES: This product is not to be used for diagnostic nor therapeutic purposes. By accepting this product, the user confirms that it will be used for research purposes only. Stressgen warrants that its products conform to the information published by Stressgen. Purchaser must determine the suitability of the product for their particular use. Please refer to the MSDS for product safety information.