

HSP70 ELISA Kit



Antibodies • Proteins • Kits • Small Molecules

Heat Shock Protein 70 (HSP70) StressXpress® ELISA Kit	Catalog No.	Size
Purpose: ELISA kit used to quantitate the HSP70 concentration in samples	SKT-105-96	96-well
	SKT-105-480	5 x 96-well

Kit Specifications	
Species Reactivity:	Human
Sample Type:	Cell Lysates Tissue Extracts
Sensitivity:	0.18 ng/ml
Assay Range:	0.781-50 ng/ml
Incubation Time:	30 minutes
Storage Temp:	4°C
Shipping Temp:	4°C

Kit Components:

- Anti-HSP70 Immunoassay Plate
- 5X HSP70 Extraction Reagent
- Recombinant HSP70 Standard
- Standard and Sample Diluent
- 10X Wash Buffer Concentrate
- Anti-HSP70 Biotinylated Antibody Concentrate
- Anti-HSP70 Biotinylated Antibody Diluent
- Streptavidin: HRP Concentrate
- Streptavidin: HRP Diluent
- TMB Substrate
- Stop Solution
- Pre-Treatment Buffer

StressMarq Biosciences is pleased to provide you with the StressXpress® Hsp70 ELISA Kit. StressMarq's Hsp70 ELISA Kit has been validated on human samples, and is specific for the inducible Hsp70 (Hsp72), and will not react with Hsc70 (Hsp73). Furthermore it will not cross react with Grp94, Hsp60 or Hsp90.

Research Background:

Hsp70 genes encode abundant heat-inducible 70-kDa hsp70s (hsp70s). In most eukaryotes hsp70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 50% identity. The N-terminal two thirds of hsp70s are more conserved than the C-terminal third. Hsp70 binds ATP with high affinity and possesses a weak ATPase activity which can be stimulated by binding to unfolded proteins and synthetic peptides. When hsc70 (constitutively expressed) present in mammalian cells was truncated, ATP binding activity was found to reside in an N-terminal

fragment of 44kDa which lacked peptide binding capacity. Polypeptide binding ability therefore resided within the C-terminal half. The structure of this ATP binding domain displays multiple features of nucleotide binding proteins. All hsp70s, regardless of location, bind proteins, particularly unfolded ones. The molecular chaperones of the hsp70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins preventing their aggregation and misfolding. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein. The universal ability of hsp70s to undergo cycles of binding to and release from hydrophobic stretches of partially unfolded proteins determines their role in a great variety of vital intracellular functions such as protein synthesis, protein folding and oligomerization and protein transport.

