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# Certificate of Analysis and Data Sheet Rabbit anti-HSP27 antibody

<b>Catalog No.</b> 130-10055	<b>Isotype:</b> Rabbit Ig G	<b>Species:</b> Human	<b>Accession No:</b> P04792
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## Description

HSP27 involved in stress resistance and actin organization.

General functions of HSP27 are the thermotolerance in vivo, the cytoprotection, and the support of cell survival under stress conditions. Special functions are manifold and complex. In vitro it acts as an ATP-independent chaperone by inhibiting protein aggregation and by stabilizing partially denatured proteins, which ensures refolding by the Hsp70-complex. HSP27 is also involved in the apoptotic signalling pathway which interacts with the outer mitochondrial membranes and interferes with the activation of cytochrome c/Apaf-1/dATP complex and therefore inhibits the activation of procaspase-9. A well documented function of HSP27 is the interaction with actin and intermediate filaments. It prevents the formation of non-covalent filament/filament interactions of the intermediate filaments and protects actin filaments from fragmentation. It also preserves the focal contacts fixed at the cell membrane.

Another function of HSP27 is the activation of the proteasome. It speeds up the degradation of irreversibly denatured proteins and junk proteins by binding to ubiquitinated proteins and to the 26S proteasome. HSP27 enhances the activation of the NF- $\kappa$ B pathway, that controls a lot of processes, such as cell growth and inflammatory and stress responses.

## Applications

Table Summary of antibody applications and working conditions

Options Functions	YES	NO	Not determined	Recommended Work dilution or concentration
ELISA	*			1:20000 (at least detecting 50 ng/ml)
Western Blotting			*	
Enzyme Immunoassay(EIA)			*	
Immunohistology - paraffin			*	

Note: Other applications are not tested yet. Optimal dilutions should be determined by each laboratory for each application.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### **Preparation**

Immunogen was synthetic peptide derived from human HSP27. This antibody was produced from a rabbit immunized with the immunogen. The IgG fraction was purified from rabbit serum by ammonium sulphate precipitation, and followed by Protein A/G affinity chromatography.

### **Binding Activity**

The antibody can specifically bind to its immunogen, and did not show any cross reactivity with unrelated antigens in ELISA. The specificity for binding to recombinant protein, cellular protein and native antigen is not defined. Cross reactivity with mouse and rat HSP70 was not tested yet.

### **Reconstitution**

Supplied as lyophilized and purified antibody originally containing PBS, without **Preservative Stabilizers**, liking Sodium Azide. *It final concentration is indicated in shipping vial.*

The antibody is stable for at least years from the data of receipt when stored at  $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$ . Reconstituted antibody (suggesting with sterile PBS) can also be aliquotted and stored frozen at  $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$  in a manual defrost freezer for months without detectable loss activity. Upon reconstitution, the antibody can also be stored over months at  $4^{\circ}\text{C}$ . **Please avoid freeze-thaw cycles.**

### **Storage**

Keep it at  $4^{\circ}\text{C}$  if intended for use within a month. Store at  $-20^{\circ}\text{C}$  if over months. **Minimize freezing and thawing when use.**

### **Related products**

- 1 Mouse Anti-Human Heat Shock Protein 27 (cat# DS-MB-01441)
- 2 Recombinant Human Heat Shock Protein 27 (cat# 228-10789-3)

### **Reference**

Garrido C, et al..(2006) Heat shock proteins 27 and 70: anti-apoptotic proteins with tumorigenic properties. Cell Cycle. 5(22):2592-601.

Didelot C, et al..(2006) Heat shock proteins: endogenous modulators of apoptotic cell death. Handb Exp Pharmacol. 172:171-98.

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