

Datasheet for 200-301-F55**Hsp25/Hsp27 Antibody****Overview**

Description:	Anti-HSP25/HSP27 (MOUSE) Monoclonal Antibody - 200-301-F55
Item No.:	200-301-F55
Size:	100 µg
Applications:	FC, IF, IHC, IP, Multiplex, WB
Reactivity:	Human, Mouse, Rat, Bovine, Dog, Guinea Pig, Hamster, Sheep
Host Species:	Mouse

Product Details**Background:**

Hsp25 is the mouse homologue of the human Hsp27 protein, a member of the small heat shock protein family comprised of a diverse group of proteins from ~15 to >30kDa. The basic structure of most sHsps is a homologous and highly conserved amino acid sequence, with an α -crystallin-domain at the C-terminus and the WD/EPF domain at the less conserved N-terminus. This N-terminus is essential for the development of high molecular oligomers. Hsp27-oligomers consist of stable dimers formed by as many as 8-40 Hsp27 protein monomers. The oligomerization status is connected with the chaperone activity: aggregates of large oligomers have high chaperone activity, whereas dimers have no chaperone activity.

HSP27 is localized to the cytoplasm of unstressed cells but can redistribute to the nucleus in response to stress, where it may function to stabilize DNA and/or the nuclear membrane. It can be rapidly phosphorylated in response to physiological stimuli relevant to the cell type examined. Thus, hsp27 has been suggested to be an important intermediate in second messenger-mediated signaling pathways. Other functions include chaperone activity (as mentioned above), thermo-tolerance in vivo, inhibition of apoptosis, and signal transduction. Specifically, in vitro, it acts as an ATP-independent chaperone by inhibiting protein aggregation and by stabilizing partially denatured proteins, which ensures refolding of the HSP70 complex. Hsp27 is also involved in the apoptotic signaling pathway because it interferes with the activation of cytochrome c/Apaf-1/dATP complex, thereby inhibiting the activation of procaspase-9. It is also hypothesized that hsp27 may serve some role in cross-bridge formation between actin and myosin. And finally, Hsp27 is also thought to be involved in the process of cell differentiation. The up-regulation of Hsp27 correlates with the rate of phosphorylation and with an increase of large oligomers. It is possible that Hsp27 may play a crucial role in termination of growth.

Synonyms:	Heat shock protein beta-1, HspB1, Growth-related 25 kDa protein, Heat shock 25 kDa protein, HSP 25, Heat shock 27 kDa protein, HSP 27, p25, Hspb1, Hsp25, Hsp27
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Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	8A7
Format:	IgG

Target Details

Gene Name:	Hspb1
Reactivity:	Human, Mouse, Rat, Bovine, Dog, Guinea Pig, Hamster, Sheep
Immunogen Type:	Conjugated Peptide
Immunogen:	Hsp25/Hsp27 Antibody was produced in mice by repeated immunizations raised against an internal region of hsp27 synthetic peptide.
Purity/Specificity:	Anti-Hsp25/Hsp27 Antibody was purified by Protein G chromatography. A BLAST analysis was used to suggest cross-reactivity with Hsp25/27 from Mouse, Rat, Bovine, Canine, Guinea pig, and Hamster based on 100% homology with the immunizing sequence. Recognizes Hsp25 and Hsp27, cross reacts with alpha B crystallin. Cross-reactivity with Hsp25/Hsp27 from other sources has not been determined. Heat Shock research.
Relevant Links:	• NCBI - NP_038588.2 • GeneID - 15507 • UniProtKB - P14602

Application Details

Tested Applications:	FC, IF, IHC, IP, Multiplex, WB
Application Note:	Anti-Hsp25/Hsp27 Antibody has been tested in WB, IHC-P, ICC/IF, IP, FC, and FACS. Expect a band approximately 25kDa or 27kDa protein corresponding to the molecular mass of Hsp25/27 on SDS PAGE immunoblots. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
FC:	User Optimized
IF:	1:200
IHC:	User Optimized

IP:	User Optimized
WB:	1:5000

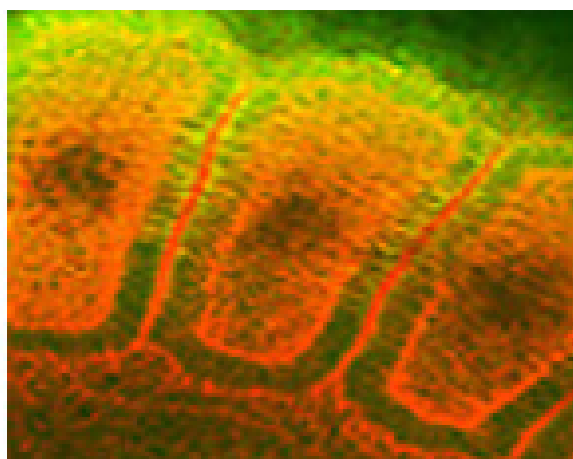
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.09% (w/v) Sodium Azide
Stabilizer:	50% (v/v) Glycerol

Shipping & Handling

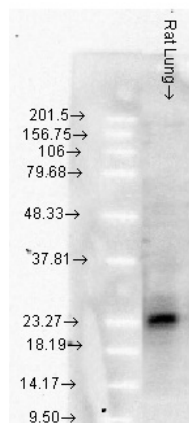
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Immunofluorescence Microscopy

Immunofluorescence of mouse anti-Hsp25/Hsp27 antibody.
 Tissue: Somites of a rat embryo at 11 days of gestation.
 Antigen retrieval: not required. Primary Antibody:
 Hsp25/Hsp27 antibody at 10ug/ml for 1h at RT. Secondary
 antibody: Fluorescein mouse secondary at 1:10,000 for 45
 min at RT. Localization: nuclear and cytoplasmic. Staining:
 Hsp25/Hsp27 as green fluorescent signal and rhodamine-
 phalloidin labeled actin as red counterstain.



Western Blot

Western Blot of mouse anti-Hsp25/Hsp27 antibody. Lane 1: molecular weight markers. Lane 2: rat lung tissue lysates. Load: 35 µg per lane. Primary antibody: Hsp25/Hsp27 antibody at 1:1000 for overnight at 4°C. Secondary antibody: IRDye800™ mouse secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 20.2 kDa/ ~24kDa for Hsp25/Hsp27. Other band(s): none.

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.