Datasheet for 100-401-F63

Hsp70 Antibody

Overview

Description:	Anti-HSP70 (RABBIT) Antibody - 100-401-F63
Item No.:	100-401-F63
Size:	100 µL
Applications:	IF, IHC, IP, WB
Reactivity:	Human, Mouse, Rat, Anthozoa, Atlantic Hagfish, Beluga, Bovine, Carp, Dog, Guinea Pig, Hamster, Monkey, Pig, Sheep, Spiny Dogfish, Tobacco, Tomato
Host Species:	Rabbit

Product Details

Background:	Hsp70 genes encode abundant heat-inducible 70-kDa hsps (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 5O % 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 44 kDa 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. When cells are subjected to metabolic stress (e.g., heat shock) a member of the hsp 70 family, hsp 70 (hsp72), is expressed; hsp 70 is highly related to hsc70 (>90% sequence identity). Constitutively expressed hsc70 rapidly forms a stable complex with the highly inducible hsp70 in cells following heat shock. The interaction of hsc70 with hsp 70 is regulated by ATP. These two heat shock proteins move together in the cell experiencing stress. Furthermore, research on hsc70 has implicates it with a role in facilitating the recovery of centrosomal structure and function after heat shock.
Synonyms:	Hsp70 1, Hsp70 2, Hsp70.1, Hsp72, Hsp73, HSPA1, HSPA1A, HSPA1B, Heat shock 70 kDa protein 1A/1B, Heat shock 70 kDa protein 1/2, HSP70-1/HSP70-2
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	HSPA1A
Reactivity:	Human, Mouse, Rat, Anthozoa, Atlantic Hagfish, Beluga, Bovine, Carp, Dog, Guinea Pig, Hamster, Monkey, Pig, Sheep, Spiny Dogfish, Tobacco, Tomato
Immunogen Type:	Recombinant Protein
Immunogen:	Hsp70 Antibody was produced from whole rabbit serum prepared by repeated immunizations raised against full length protein Hsp70.
Purity/Specificity:	Anti-Hsp70 Antibody was prepared from monospecific antiserum by delipidation and defibrination. A BLAST analysis was used to suggest cross-reactivity with Hsp70 from Human, mouse, rat, beluga, cow, dog, fish (carp), guinea pig, hamster, monkey, pig, sheep, coral, tomato, tobacco, spiny dogfish shark (Squalus acanthias), and Atlantic Hagfish (Myxine glutinosa) based on 100% homology with the immunizing sequence. Cross-reactivity with Hsp70 from other sources has not been determined. Heat Shock research.
Relevant Links:	• NCBI - NP_005336.3 • GeneID - 3303 • UniProtKB - P08107

Application Details

Tested Applications:	IF, IHC, IP, WB
Application Note:	Anti-Hsp70 Antibody has been tested in WB, IHC, IF microscopy, IP and is suitable for use in ELISA. Expect a band approximately ~70kDa protein corresponding to the molecular mass of inducible Hsp70 on SDS PAGE immunoblots. May cross-react with Hsc70 at lower dilutions. 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:	1:200
IF:	User Optimized
IHC:	User Optimized
IP:	1:100
WB:	1:25,000

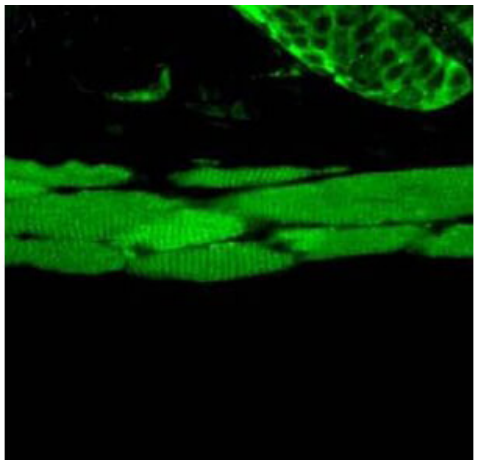
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	85 mg/mL by Refractometry
Buffer:	1X PBS, pH 7.4
Preservative:	0.09% (w/v) Sodium Azide
Stabilizer:	50% (v/v) Glycerol

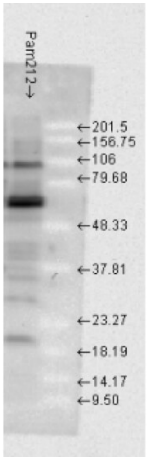
Shipping & Handling

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.

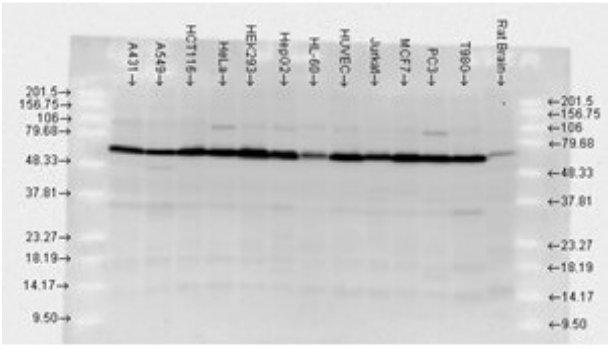
Images



Immunofluorescence Microscopy
Immunofluorescence of rabbit anti-Hsp70 antibody. Tissue: backskin sections of transgenic mice. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary Antibody: Hsp70 antibody at 10ug/ml for 1h at RT. Secondary antibody: Fluorescein rabbit secondary at 1:10,000 for 45 min at RT. Localization: cytoplasmic. Staining: Hsp70 as green fluorescent signal.



Western Blot
Western Blot of rabbit anti-Hsp70 antibody. Lane 1: Pam212 cell Lysate. Lane 2: molecular weight marker. Load: 35 µg per lane. Primary antibody: Hsp70 antibody at 1:1000 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 70.1 kDa/~65 kDa for Hsp70. Other band(s): none.



Western Blot
Western Blot of rabbit anti-Hsp70 antibody. Lane 1: A431. Lane 2: A549. Lane 3: HCT116. Lane 4: HeLa. Lane 5: HEK293. Lane 6: HepG2. Lane 7: HL-60. Lane 8: HUVEC. Lane 9: Jurkat. Lane 10: MCF7. Lane 11: PC3. Lane 12: T98G. Lane 13: Rat Brain. Load: 35 µg per lane. Primary antibody: Hsp70 antibody at 1:1000 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 70.1 kDa/~65 kDa for Hsp70. 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.