

Anti-Hsc70 (Hsp73) (MOUSE) Monoclonal Antibody - 200-301-A28

Code: 200-301-A28

Size: 100 µg

Product Description: Anti-Hsc70 (Hsp73) (MOUSE) Monoclonal Antibody - 200-301-A28

Concentration: 1.0 mg/mL by UV absorbance at 280 nm

PhysicalState: Liquid (sterile filtered)

Label	Unconjugated
Host	Mouse
Gene Name	HSPA1A
Species Reactivity	human, bovine, mouse, rat, C.elegans, beluga, dog, chicken, Drosophila, carp, salmon, trout, guinea pig, hamster, monkey, pig, cucumber, pea, rabbit, sheep, Xenopus
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Stabilizer	50% (v/v) Glycerol
Preservative	0.1% (w/v) Sodium Azide
Storage Condition	Store vial at -20° C prior to opening. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing.
Synonyms	Heat shock cognate protein 71-kDa antibody, Heat shock protein 8 antibody, Heat-shock70-KD protein 10, formerly antibody, HSC54 antibody, HSC71 antibody
Application Note	This Protein G purified antibody has been tested for use in western blotting, immunoelectron microscopy, immunohistochemistry and immunoprecipitation. Specific conditions for reactivity should be optimized by the end user. Expect a doublet band approximately 72/73 kDa in size corresponding to Hsc70 (Hsp73) by western blotting in the appropriate cell lysate or extract. In general, a 1:1,000 dilution is suggested for most applications and is suitable to detect Hsc70 (Hsp73) in 20 µg of heat shocked HeLa cell lysate by western blotting.
Background	Hsp70 genes encode abundant heat-inducible 70-kDa hsps (hsp70s). In most eukaryotes, hsp70 genes exist as part of a multigene family. Hsp70s 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 (2). The N-terminal two-thirds of hsp70s are more conserved than the C-terminal one-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 (3). 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 (4). The structure of this ATP binding domain displays multiple features of nucleotide binding proteins (5). 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 (6). 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.
Purity And Specificity	This Protein G purified monoclonal antibody reacts with human Hsc70 (Hsp73) protein. A BLAST analysis was used to suggest cross-reactivity with Hsc70 from human, bovine, mouse, rat, C.elegans, beluga, dog, chicken, Drosophila, carp, salmon, trout, guinea pig, hamster, monkey, pig, cucumber, pea, rabbit, sheep and Xenopus sources based on 100% homology with the immunizing sequence. This antibody recognizes both the inducible hsp and the constitutively expressed hsc as 72 kDa and 73 kDa proteins, respectively. Cross-reactivity with Hsp70 from other sources has not been determined.
Assay Dilutions	User Optimized
ELISA	1:10,000 - 1:50,000
Immunohistochemistry	1:200 - 1:1,000
WESTERN BLOT	1:500 - 1:2,000
IHC	1:200 - 1:1,000
OTHER ASSAYS	User Optimized
Expiration	Expiration date is one (1) year from date of opening.
Immunogen	This Protein G purified monoclonal antibody was prepared using conventional hybridoma technology after

repeated immunizations with a synthetic peptide corresponding to a region of human Hsc70 (Hsp73) protein.

General Reference

Welch, W.J. and Suhan, J.P. (1986) J.Cell Biol. 103: 2035-2050.

Boorstein, W.R., Ziegelhoffer, T. and Craig, E.A. (1993) J. Mol. Evol. 38 (1): 1-17.

Rothman, J. (1989) Cell 59: 591-601.

Related Products

200-301-243	Anti-HSP27 (MOUSE) Monoclonal Antibody - 200-301-243
200-301-268	Anti-AKT pS473 (MOUSE) Monoclonal Antibody - 200-301-268
200-301-A27	Anti-Hsp70 (MOUSE) Monoclonal Antibody - 200-301-A27
600-401-929	Anti-Heat shock protein HSP 90-alpha (RABBIT) Antibody - 600-401-929

Related Links

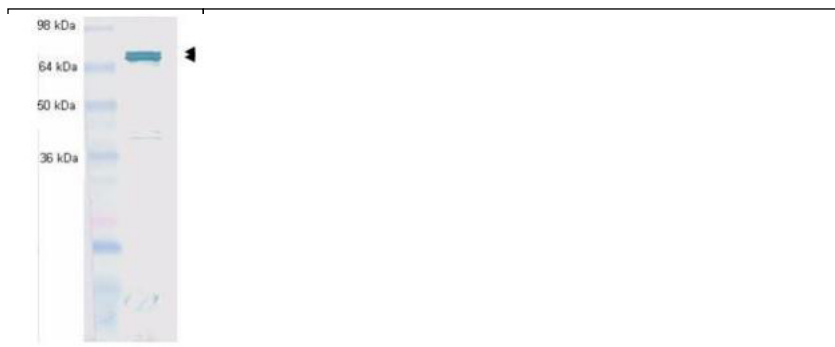
NCBI - NP_006588 http://www.ncbi.nlm.nih.gov/sviewer/viewer.fcgi?val=NP_006588.1

UniProt - P08107 <http://www.uniprot.org/uniprot/P08107>

Gene ID - 3303 <http://www.ncbi.nlm.nih.gov/gene/3303>

Images

1 Western blot using Rockland's Protein G purified anti-Hsc70 (Hsp73) antibody shows detection of Hsc70 (Hsp73) in whole cell lysates from heat shocked HeLa cells. The band marked by the double arrowheads corresponds to Hsc70 (Hsp73) at an approximate molecular weight of 72/73 kDa. The primary antibody was used at a 1:1,000 dilution.



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.