



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# Anti-HSP70 Antibody [2A4]

Mouse Anti-Human HSP70 Monoclonal IgM  
Catalog No. SMC-163



Discovery through partnership | Excellence through quality

## Overview

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### Product Name

HSP70 Antibody

### Description

Mouse Anti-Human HSP70 Monoclonal IgM

### Species Reactivity

Human, Mouse, Rat, Amphibians, Chicken, Fish, Fruit Fly (*Drosophila melanogaster*), Yeast, Yeast (*Saccharomyces cerevisiae*)

### Applications

WB, IHC, ICC/IF, IP

### Antibody Dilution

WB (1:5000), IHC (1:100), ICC/IF (1:100); optimal dilutions for assays should be determined by the user.

### Host Species

Mouse

### Immunogen Species

Human

### Immunogen

Human recombinant HSP70 overexpressed in *E.coli*

### Concentration

1 mg/ml

### Conjugates

Alkaline Phosphatase, APC, ATTO 390, ATTO 488, ATTO 565, ATTO 594, ATTO 633, ATTO 655, ATTO 680, ATTO 700, Biotin, FITC, HRP, PE/ATTO 594, PerCP, RPE, Streptavidin, Unconjugated

## Properties

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### Storage Buffer

PBS pH7.2, 50% glycerol, 0.09% sodium azide

### Storage Temperature

-20°C

### Shipping Temperature

Blue Ice or 4°C

### Purification

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PEG Purified

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**Clonality**

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Monoclonal

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**Clone Number**

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2A4

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**Isotype**

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IgM

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**Specificity**

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Detects ~70kDa. May detect HSP70, HSC70, and HSP72.

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**Cite This Product**

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Mouse Anti-Human HSP70 Monoclonal, Clone 2A4 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-163)

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**Certificate Of Analysis**

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0.2 µg/ml of SMC-163 was sufficient for detection of HSP70 in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgM:HRP as the secondary antibody.

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**Biological Description**

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**Alternative Names**

HSP70 1 Antibody, HSP70 2 Antibody, HSP70.1 Antibody, HSP72 Antibody, HSP73 Antibody, HSPA1 Antibody, HSPA1A Antibody, HSPA1B Antibody

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**Research Areas**

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Cancer, Heat Shock

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**Cellular Localization**

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Cytoplasm

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**Accession Number**

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NP\_005336.3

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**Gene ID**

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3303

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**Swiss Prot**

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P08107

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**Scientific Background**

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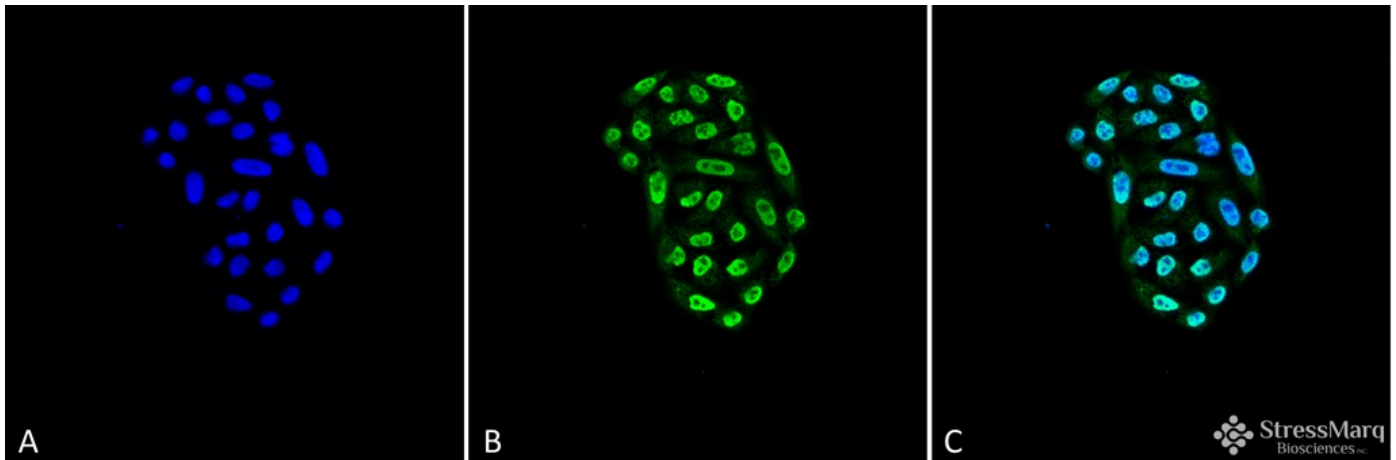
HSP70 genes encode abundant heat-inducible 70-kDa HSPs (HSP70s). In most eukaryotes HSP70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 50% identity (2). 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 (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. Looking for more information on HSP70? Visit our new HSP70 Scientific Resource Guide at <http://www.HSP70.com>.

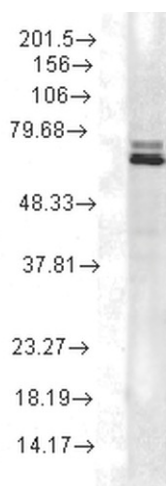
## References

1. Balashova N. et al. (2005) *J Biol Chem* 280:2186-96.
2. Boorstein W. R., Ziegelhoffer T. & Craig E. A. (1993) *J. Mol. Evol.*38 (1): 1-17.
3. Rothman J. (1989) *Cell* 59: 591 -601.
4. DeLuca-Flaherty et al. (1990) *Cell* 62: 875-887.
5. Bork P., Sander C. & Valencia A. (1992) *Proc. Nat Acad. Sci. USA* 89: 7290-7294.
6. Fink A.L. (1999) *Physiol. Rev.* 79: 425-449.

## Product Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HSP70 Monoclonal Antibody, Clone 2A4 (SMC-163). Tissue: Cervical Cancer cell line (HeLa). Species: Human. Fixation: 4% Formaldehyde for 15 min at RT. Primary Antibody: Mouse Anti-HSP70 Monoclonal Antibody (SMC-163) at 1:100 for 60 min at RT. Secondary Antibody: Goat Anti-Mouse ATTO 488 at 1:100 for 60 min at RT. Counterstain: DAPI (blue) nuclear stain at 1:5000 for 5 min RT. Localization: Nucleus, Cytoplasm. Magnification: 40X.



Western Blot analysis of Rat Cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone 2A4 (SMC-163). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (SMC-163) at 1:5000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.

## Product Citations (2)

### Other Citations

**Biomarker Analysis with Grating Coupled Surface Plasmon Coupled Fluorescence.**

Mendoza, A., Dias, J.A., Zeltner, T. and Lawrence, D.A. (2014) J Adv Bio & Biotech. 1(1): 1-22.

**PubMed ID:**   **Reactivity:** Human   **Applications:** Antibody Microarray

**Biomarker Analysis with Grating Coupled Surface Plasmon Coupled Fluorescence.**

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**PubMed ID:**   **Reactivity:** Mouse   **Applications:** Antibody Microarray

## Reviews

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There are no reviews yet.