



# 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

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

## HSC70 Protein

Active Human Recombinant HSC70 Protein  
Catalog No. SPR-106



Discovery through partnership | Excellence through quality

### Overview

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#### Product Name

HSC70 Protein

#### Description

Active Human Recombinant HSC70 Protein

#### Applications

WB, SDS-PAGE, ATPase Activity Assay, Functional Assay, ELISA

#### Concentration

2.1 mg/ml

#### Conjugates

His tag

#### Nature

Recombinant

#### Species

Human

#### Expression System

E. coli

#### Biological Activity

ATPase active

### Properties

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#### Storage Buffer

50mM Tris/HCl, pH8, 0.3M NaCl

#### Storage Temperature

-20°C

#### Shipping Temperature

Blue Ice or 4°C

#### Purification

Affinity Purified

#### Specificity

~70 kDa

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## Cite This Product

Human Recombinant HSC70 Protein (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-106)

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## Certificate Of Analysis

This product has been certified >90% pure using SDS-PAGE analysis. The protein has ATPase activity at the time of manufacture of 3.2 $\mu$ M phosphate liberated/hr/ $\mu$ g protein in a 200 $\mu$ l reaction at 37°C (pH 8) in the presence of 20 $\mu$ l of 1mM ATP using a Malachite Green assay.

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## Biological Description

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### Alternative Names

Constitutive heat shock protein 70 Protein, HSC54 Protein, HSC71 Protein, HSC73 Protein, HSP71 Protein, HSP74 Protein, HSPA10 Protein, HSPA8 Protein, LAP1 Protein, NIP71 Protein

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### Research Areas

Cancer, Heat Shock

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### Cellular Localization

Cytoplasm, Melanosome

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### Accession Number

AF352832

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### Gene ID

3312

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### Swiss Prot

P11142

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### Scientific 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 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). 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 (6).

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### References

1. Brown C. L., et al. (1993) *J. Cell Biol.* 120(5): 1101-1112
  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. Natl Acad. Sci. USA.* 89: 7290-7294.
  6. Brown C. L., et al. (1996) *J. Biol. Chem.* 271(2): 833-840.
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## Product Images

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SDS-PAGE of 73kDa Hsc70 protein (SPR-106).

## Product Citations (6)

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### Other Citations

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**A Non-enveloped Virus Hijacks Host Disaggregation Machinery to Translocate across the Endoplasmic Reticulum Membrane.**

Ravindran, M.S., Bagchi, P., Inoue, T., and Tsai, B. (2015) PLoS Pathog. 11(8):e1005086.

**PubMed ID:** 26244546    **Applications:** Functional Assay

**KU675, a Concomitant Heat Shock Protein Inhibitor of Hsp90 and Hsc70 that Manifests Isoform Selectivity for Hsp90? in Prostate Cancer Cells.**

Liu, W. et al. (2015) Mol Pharmacol. 88:121-130.

**PubMed ID:** 25939977    **Applications:** Intrinsic fluorescence spectroscopy

**Identification of Target Antigens of Naturally Occurring Autoantibodies in Cerebrospinal Fluid.**

Kimura, A. et al. (2015) J Proteomics. pii: S1874-3919(15)30004-X.

**PubMed ID:** 25979775    **Applications:** Western Blot Control

**Discovery of a novel type of autophagy targeting RNA.**

Fujiwara, Y. et al. (2013) Autophagy. 9 (3): 403-409.

**PubMed ID:** 23291500    **Applications:** Functional Assay

**The formation of intracellular glyceraldehyde-derived advanced glycation end-products and cytotoxicity.**

Takino, J., Kobayashi, Y. and Takeuchi, M. (2010) J Gastroenterol. 45 (6): 646-655.

**PubMed ID:** 20084527    **Applications:** Functional Assay

**Identification of Phosphorylation-Dependent Binding Partners of Aquaporin-2 Using Protein Mass Spectrometry.**

Zwang, N.A. et al. (2009) J Proteome Res. 8 (3): 1540-1554.

**PubMed ID:** 19209902    **Applications:** Western Blot Control

## Reviews

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Based on validation through cited publications.



**StressMarq Biosciences**

June 15, 2016: