



# 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) 

# Anti-GRP78 Antibody

Rabbit Anti-Rat GRP78 Polyclonal  
Catalog No. SPC-107



Discovery through partnership | Excellence through quality

## Overview

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### Product Name

GRP78 Antibody

### Description

Rabbit Anti-Rat GRP78 Polyclonal

### Species Reactivity

Dog, Human, Monkey, Mouse, Rat, African clawed frog (*Xenopus laevis*), Bovine, Chestnut Blight (*Cryphonectria parasitica*), Fungi, Hamster, Rabbit

### Applications

WB, IHC, ICC/IF, IP

### Antibody Dilution

WB (1:1000), ICC/IF (1:100); optimal dilutions for assays should be determined by the user.

### Host Species

Rabbit

### Immunogen Species

Rat

### Immunogen

Rat GRP78 (Bip) synthetic peptide conjugated to KLH

### 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 pH7.4, 50% glycerol, 0.09% sodium azide

### Storage Temperature

-20°C

### Shipping Temperature

Blue Ice or 4°C

### Purification

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Peptide Affinity Purified

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### Clonality

Polyclonal

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### Specificity

Detects ~78kDa.

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### Cite This Product

Rabbit Anti-Rat GRP78 Polyclonal (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPC-107)

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### Certificate Of Analysis

A 1:1000 dilution of SPC-107 was sufficient for detection of Grp78 in 10 µg of rat tissue lysate by ECL immunoblot analysis.

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## Biological Description

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### Alternative Names

BIP Antibody, Grp78 Antibody, HSPA5 Antibody, MIF2 Antibody, immunoglobulin heavy chain binding protein Antibody

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### Research Areas

Cancer, Heat Shock, Cell Signaling, Chaperones, Organelle Markers, Trafficking

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### Cellular Localization

Cytoplasm, Endoplasmic Reticulum, Endoplasmic reticulum lumen, Melanosome

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### Accession Number

NP\_037215.1

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### Gene ID

25617

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### Swiss Prot

P06761

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### Scientific Background

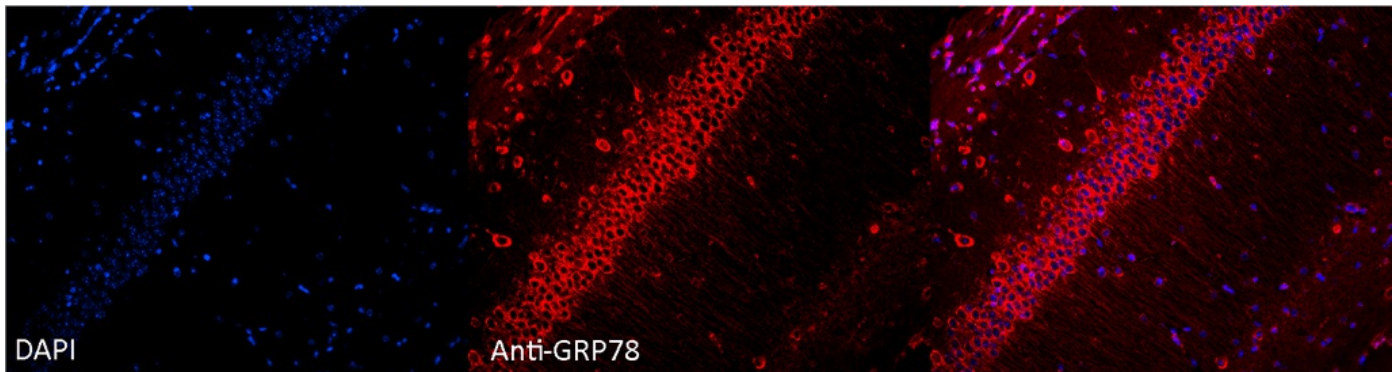
GRP78 is a ubiquitously expressed, 78-kDa glucose regulated protein, and is commonly referred to as an immunoglobulin chain binding protein (BiP). The BiP proteins are categorized as stress response proteins because they play an important role in the proper folding and assembly of nascent protein and in the scavenging of misfolded proteins in the endoplasmic reticulum lumen. Translation of BiP is directed by an internal ribosomal entry site (IRES) in the 5' non-translated region of the BiP mRNA. BiP IRES activity increases when cells are heat stressed (1). GRP78 is also critical for maintenance of cell homeostasis and the prevention of apoptosis (2). Luo et al. have provided findings that suggest GRP78 is essential for embryonic cell growth and pluripotent cell survival (3). In terms of diseases, GRP78 has been shown to be a reliable biomarker of hypoglycemia, to serve a neuroprotective function in neurons exposed to glutamate and oxidative stress (4), and its protein levels are reduced in the brains of Alzheimer's patients (5). Also, the induction of the GRP78 protein that results in severe glucose and oxygen deprivation could possibly lead to drug resistance to anti-tumor drugs (6, 7).

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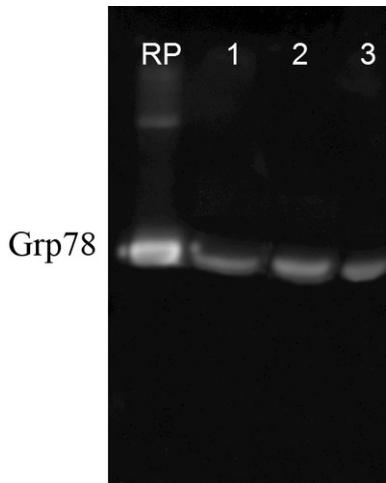
### References

1. Cho, S. et al. (2007). *Mol Cell Biol* 27(1): 368-83.
2. Yang, Y. et al. (1998) *J Biol Chem* 273: 25552-25555.
3. Luo, S. et al (2006) *26* (15): 5688-97.
4. Yu, Z. et al. (1999) *Exp Neurol.* 15: 302-314.
5. Koomagi, R. et al. (1999) *Anticancer Res.* 19:4333-4336.
6. Laquerre, S. et al. (1998) *J. Virology* 72: 4940-4949.

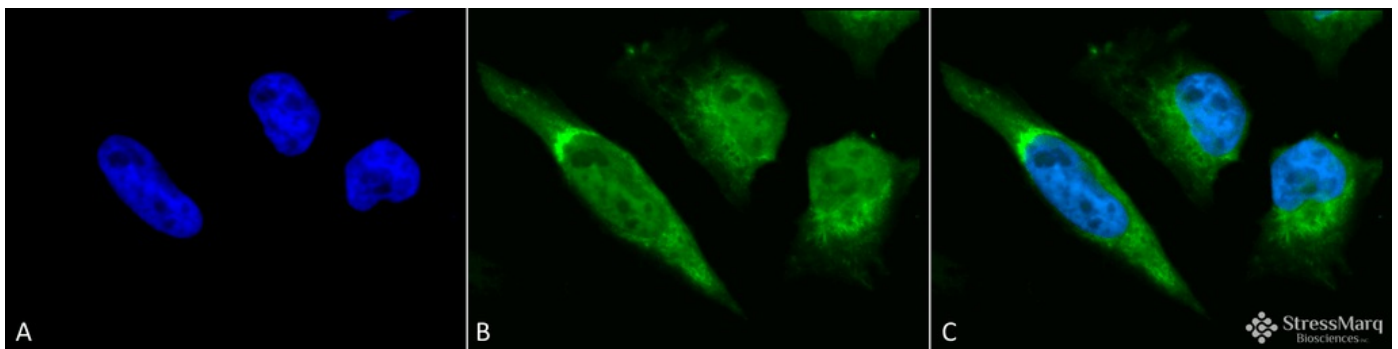
## Product Images



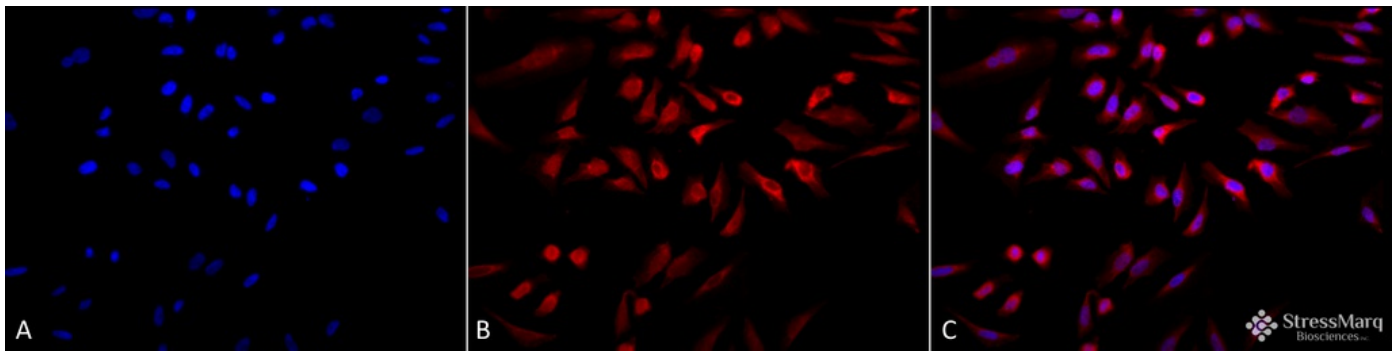
Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-GRP78 Polyclonal Antibody (SPC-107). Tissue: Hippocampal Section. Species: Mouse. Fixation: 4% Formaldehyde for 12 hours at RT. Paraffin embedded.. Primary Antibody: Rabbit Anti-GRP78 Polyclonal Antibody (SPC-107) at 1:100 for 12 hours at 4°C. Secondary Antibody: Alexa Fluor 555 Goat Anti-Rabbit at 1:250 for 1 hour at RT. Counterstain: Hoechst at 1:1000 for 10 min at RT. Localization: Grp78 staining in mouse pyramidal cell layer.. Magnification: 20x. Slice thickness: 7 microns



. Courtesy of: Rachel Reith, NIH/NIMH..

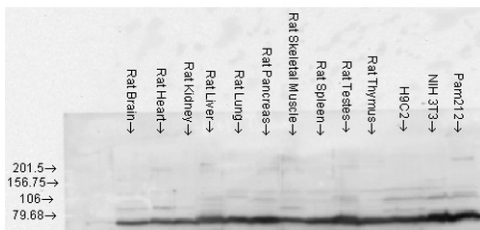


Western blot analysis of Human, Dog, Mouse Cell line lysates showing detection of GRP78 protein using Rabbit Anti-GRP78 Polyclonal Antibody (SPC-107). Primary Antibody: Rabbit Anti-GRP78 Polyclonal Antibody (SPC-107) at 1:1000.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-GRP78 Polyclonal Antibody (SPC-107). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-GRP78 Polyclonal Antibody (SPC-107) at 1:100 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Endoplasmic reticulum lumen. Melanosome. Cytoplasm . Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-GRP78 Antibody. (C) Composite. Heat Shocked at 42°C for 30 min.

Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-GRP78 Polyclonal Antibody (SPC-107). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-GRP78 Polyclonal Antibody (SPC-107) at 1:100 for 12 hours at 4°C. Secondary Antibody: APC Goat Anti-Rabbit (red) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Endoplasmic reticulum lumen. Melanosome. Cytoplasm . Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-GRP78 Antibody. (C) Composite. Heat Shocked at 42°C for 30 min.



## Product Citations (5)

### Western Blot

#### Activation of the unfolded protein response during anoxia exposure in the turtle *Trachemys scripta elegans*.

Krivoruchko, A. and Storey, K.B. (2013) Mol Cel Biochem. 374 (1-2): 91-103.

**PubMed ID:** 23124854 **Reactivity:** Turtle **Applications:** Western Blot

#### Crucial Roles of the Protein Kinases MK2 and MK3 in a Mouse Model of Glomerulonephritis.

Guess A.J., et al. (2013) PLoS ONE. 8(1): e54239.

**PubMed ID:** 23372691 **Reactivity:** Mouse **Applications:** Western Blot

### Immunoprecipitation

#### GRP78 clustering at the cell surface of neurons transduces the action of exogenous alpha-synuclein.

Bellani, S. et al. (2014) Cell Death Differ. 21(12):1971-83.

**PubMed ID:** 25124556 **Reactivity:** Human **Applications:** Immunoprecipitation

### Immunocytochemistry/Immunofluorescence

#### A translationally optimized AAV-UGT1A1 vector drives safe and long-lasting correction of Crigler-Najjar syndrome.

Giuseppe, R. et al. (2016) Molecular Therapy-Methods & Clinical Development. 3: 16049

**PubMed ID:**   **Reactivity:** Human   **Applications:** Immunocytochemistry/Immunofluorescence

**GRP78 clustering at the cell surface of neurons transduces the action of exogenous alpha-synuclein.**

Bellani, S. et al. (2014) Cell Death Differ. 21(12):1971-83.

**PubMed ID:** 25124556   **Reactivity:** Human   **Applications:** Immunocytochemistry/Immunofluorescence

## Reviews

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Based on validation through cited publications.



**StressMarq Biosciences**

June 15, 2016: