

# Anti-ERp57 (GRP58)

Catalog# SMC-168 A/B  
Size: 50/200µg

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This product is for *in vitro* research use only and is not intended for use in humans or animals

## StressMarq

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Product	Mouse anti-ERp57 antibody; monoclonal
Clone	MaP.ERP57/IgG <sub>1</sub>
Immunogen	Human recombinant ERp57 (GRP58)
Host and Subclass	Mouse IgG <sub>1</sub>
Cited Applications	WB (8), IP (9), IHC (8)
Specificity	~57kDa
Species Cross-Reactivity	Human, Mouse, Bovine, Canine, Guinea pig, Hamster, Monkey, Pig, Rabbit, Rat
Format	Protein G Purified. PBS pH7.4, in 0.09% sodium azide and 50% glycerol
Concentration and working dilution	1mg/mL. WB: 1:2000 (ECL)
Storage and stability	-20°C; 1 year+; shipped on cold packs

#### Scientific Background

ERp57, also known as Glucose Regulated Protein 58 (Grp58), Hormone-Induced Protein-70 (HIP-70) and microsomal Carnitine Palmitoyltransferase, is a member of the protein disulfide isomerase family, containing two canonical CXHC tetrapeptide active site motifs (1-5). It has quite a few diverse roles. It functions as an accessory oxidoreductase involved in disulfide bond formation. In the ER, ERp57 interacts with membrane bound calnexin and soluble calreticulin (lectin chaperones) via their praline rich P-domain arms. Lectin chaperones bind nascent non-native glycoproteins, and position ERp57 to act upon the immature or misfolded glycoproteins that possess mono-glucosylated side chains. ERp57 deletion impairs posttranslational phases of influenza hema-glutinin folding, and causes accelerated release of MHC-I molecules, resulting in the coupling of sub-optimal peptides and reduced expression and stability on the

cell surface (6). ERp57 also contains two thioredoxin active-site sequences, CGHC and an estrogen-binding domain. ERp57 is induced by both estrogen and leuteinizing-hormone-releasing hormone in the hippocampus (7).

#### Selected References

- Herbert D.N. and Molinari M. (2007) *Physiol Rev.* 87: 1377-1408.
- Williams D.B. (2005) *J Cell Sci.* 119: 615-623
- Maattanen P., et al. (2006) *Biochem Cell Biol.* 84: 881-889.
- Oliver J.D., et al. (1999) *Mol Bio Cell.* 10: 2573-2582.
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- Solda T., et al. (2006) *J Biol Chem* 281: 6219-6226.
- Kimura T., et al. (2005) *Biochem Biophys Research Communications.* 331 (1): 224-230.
- Chen, G., et al. (2002) *Clin Cancer Res* 8(7): 2298-2305.
- Tan, P., et al. F. (2002) *J Immunol* 168(4): 1950-1960.

#### Certificate of Analysis

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**0.5 µg/mL of SMC-168 was sufficient for detection of ERp57 in 10µg of heat shock HeLa Lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.**

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# Material Safety Data Sheet

## ERp57 (GRP58) Polyclonal SMC-168

This product is for *in vitro* research use only and is not intended for use in humans or animals

The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

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### Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Azide	26628-22-8	0.09

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### Physical Data

This product consists of mouse immunoglobulin in PBS containing 50% glycerol and 0.09% sodium azide shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

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### Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

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### Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

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### Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

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### Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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### First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Authorized: StressMarq Biosciences Inc.  
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