

# Anti-HSP90

Catalog# SMC-112A/B

Size: 50/200µg

PO Box 55036 Cadboro Bay  
3825 Cadboro Bay Rd,  
Victoria, BC V8N 4G0, Canada

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

## StressMarq Biosciences Inc.

Orders • [sales@stressmarq.com](mailto:sales@stressmarq.com)  
Tel: • +1 250 294 9065  
Fax: • +1 250 294 9025  
Email • [info@stressmarq.com](mailto:info@stressmarq.com)  
Web • [www.stressmarq.com](http://www.stressmarq.com)

Product	Mouse anti-hsp90, AC-16 monoclonal antibody
Clone	AC-16
Immunogen	Heat shock protein 90 from the water mold <i>Achlya ambisexualis</i>
Host and Subclass	Mouse, IgG <sub>2b</sub>
Applications	WB, IHC
Specificity	This antibody is reactive with both the constitutive and the inducible forms of HSP90. It does not bind to the native form.
Species cross-reactivity	Human, Rabbit, Rat, Mouse, Chicken, <i>Achlya</i> , Wheat Germ, Sf9 cell line
Format	PBS buffer pH 7.4, in sodium azide in 50% glycerol. Protein G purified.
Concentration and working dilution	1.0mg/mL; 1µg/ml was sufficient for detection of hsp90 by Western Blot in 20µg of HeLa lysate.
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

### Scientific Background

Hsp90 is a highly conserved and essential stress protein that is expressed in all eukaryotic cells. From a functional perspective, hsp90 participates in the folding, assembly, maturation, and stabilization of specific proteins as an integral component of a chaperone complex (1-4). Despite its label of being a heat-shock protein, hsp90 is one of the most highly expressed proteins in unstressed cells (1-2% of cytosolic protein). It carries out a number of housekeeping functions - including controlling the activity, turnover, and trafficking of a variety of proteins. Most of the hsp90-regulated proteins that have been discovered to

date are involved in cell signaling (5-6). The number of proteins now known to interact with Hsp90 is about 100. Target proteins include the kinases v-Src, Wee1, and c-Raf, transcriptional regulators such as p53 and steroid receptors, and the polymerases of the hepatitis B virus and telomerase. When bound to ATP, Hsp90 interacts with co-chaperones Cdc37, p23, and an assortment of immunophilin-like proteins, forming a complex that stabilizes and protects target proteins from proteasomal degradation.

In most cases, hsp90-interacting proteins have been shown to co-precipitate with hsp90 when carrying out immunoadsorption studies, and to exist in cytosolic heterocomplexes with it. In a number of cases, variations in hsp90 expression or hsp90 mutation has been shown to degrade signaling function via the protein or to impair a specific function of the protein (such as steroid binding, kinase activity) *in vivo*. Ansamycin antibiotics, such as geldanamycin and radicicol, inhibit hsp90 function (7).

### Selected References

1. Arlander SJH, et al. (2003) *J Biol Chem* 278: 52572-52577.
2. Pearl H, et al. (2001) *Adv Protein Chem* 59:157-186.
3. Neckers L, et al. (2002) *Trends Mol Med* 8:S55-S61.
4. Pratt W, Toft D. (2003) *Exp Biol Med* 228:111-133.
5. Pratt W, Toft D. (1997) *Endocr Rev* 18: 306-360.
6. Pratt WB. (1998) *Proc Soc Exptl Biol Med* 217: 420-434.
7. Whitesell L, et al. (1994) *Proc Natl Acad Sci USA* 91: 8324-8328.

### Certificate of Analysis

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1 µg/mL of SMC-112 was sufficient for detection of Hsp90 in 20µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

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# Material Safety Data Sheet

## Anti-Hsp90, AC-16 (Monoclonal Antibody) SMC-112

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 0.09% azide in 50% glycerol 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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