

Anti-Hsp40 (HDJ1)

Catalog# SMC-145 C/D

Size: 25/100µg

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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-Hsp40 antibody; monoclonal
Clone	3B9.E6
Immunogen	Recombinant protein HSP40 (HDJ1)
Host and Subclass	Mouse, IgG ₁
Cited Applications	WB, IP, IHC, ELISA, IF
Specificity	This antibody detects hsp40 (HDJ1). It does not cross-react with HDJ2 or YDJ1.
Species cross-reactivity	Human, Mouse, Rat (other species not tested)
Format	PBS pH 7.2; 50% glycerol, 0.09% azide. Protein G affinity purified.
Concentration and working dilution	1mg/mL; 1/2000 for WB (ECL)
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

Scientific Background

Human Hsp40/DnaJ proteins comprise a large protein family, members of which feature the J domain (named after the bacterial DnaJ protein) (1). The J-domain spans the first 75 N-terminal amino acids and is separated from the C-terminal by a glycine/phenylalanine-rich domain (2). Members of the Hsp40/DnaJ family play diverse roles in many cellular processes, such as folding, translocation, degradation and assembly of multi-protein complexes. In particular, Hdj1, the first human Hsp40/DnaJ protein identified, plays an important role in protein translation and folding, as well as in the regulation of Hsp70 function (3). HSP40 stimulates the ATPase activity of HSP70 which in turn causes conformational changes of the unfolded proteins (4, 5). The Hsp40-Hsp70-unfolded protein complex further binds to co-chaperones Hip, Hop and HSP90 which leads to protein folding, or components of protein degradation

machinery CHIP and BAG-1 (6). Some studies have shown that the difference between HDJ1 and type 1 DNAJ proteins including HDJ2 and yeast Ydj1 is the result of the possession of a zinc finger domain by the latter, which helps in the function of protein folding. (7, 8).

Selected References

- Cheetham M.E. and Caplan A.J. (1998) *Cell Stress Chaperones* 3: 28-36.
- Fan C.Y., et al. (2003) *Cell Stress Chaperones* 8: 309-316.
- Sohn S.Y., Kim S.B., Kim J., and Ahn B.Y. (2006) *J Gen Virol.* 87(7): 1883-91.
- Liberek K. et al. (1991) *Proc. Natl. Acad. Sci. USA* 88: 2874-2878.
- Cyr D.M., et al. (1992) *J Biol Chem.* 267: 20927-20931.
- Höhfeld J., et al. (2001) *EMBO Rep.* 2: 885-890.
- Terda K., et al. (1997) *J Cell Biol.* 139: 1089-1095.
- Lu Z. and Cyr D.M. (1998) *J Biol Chem.* 273: 27824-27830.

Certificate of Analysis

0.5 µg/mL of SMC-145 was sufficient for detection of Hsp40 (HDJ1) in 15µg of HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Material Safety Data Sheet

Anti-Hsp40 (Hdj1) (Monoclonal Antibody) SMC-145

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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.

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

Physical Data

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

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

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.

Preventative Measures

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

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.

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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