

**HSP90 (total) Antibody**  
**HSP90 Antibody, Clone 4F3.E8**  
**Catalog # ASM10069**

**Specification**

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**HSP90 (total) Antibody - Product Information**

Application	<b>IHC, WB</b>
Primary Accession	<a href="#">P07900</a>
Other Accession	<a href="#">NP_001017963.2</a>
Host	<b>Mouse</b>
Isotype	<b>IgG2a</b>
Reactivity	<b>Human, Mouse, Rat</b>
Clonality	<b>Monoclonal</b>
Format	<b>ATTO 390</b>

**Description**

Mouse Anti-Human HSP90 (total) Monoclonal IgG2a

**Target/Specificity**

Detects ~90kDa. This antibody detects both  $\alpha$  and  $\beta$  forms of HSP90 equally well.

**Other Names**

HSP84 Antibody, HSP86 Antibody, HSP90A Antibody, HSP90AA1 Antibody, HSP90AB1 Antibody, HSP90B Antibody, HSPC1 Antibody, HSPC2 Antibody, HSPCAL1 Antibody, HSPCAL4 Antibody

**Immunogen**

Recombinant Human HSP90 purified from E.coli

**Purification**

Protein G Purified

Storage **-20°C**

**Storage Buffer**

PBS pH7.2, 50% glycerol, 0.09% sodium azide

Shipping Temperature **Blue Ice or 4°C**

**Certificate of Analysis**

0.5  $\mu$ g/ml of SMC-149 was sufficient for detection of HSP90 $\alpha$  in 20  $\mu$ g of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

**Cellular Localization**

Cytoplasm | Melanosome

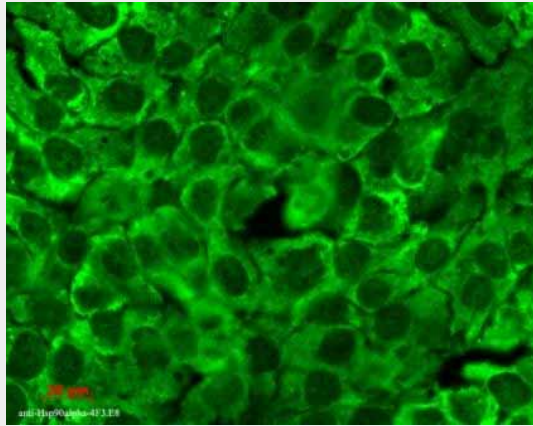
**HSP90 (total) Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

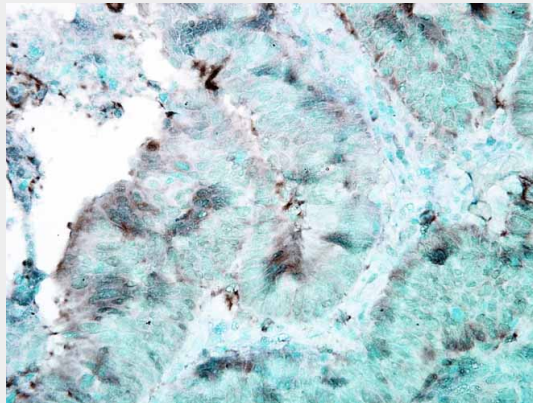
- [Western Blot](#)
- [Blocking Peptides](#)

- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### HSP90 (total) Antibody - Images



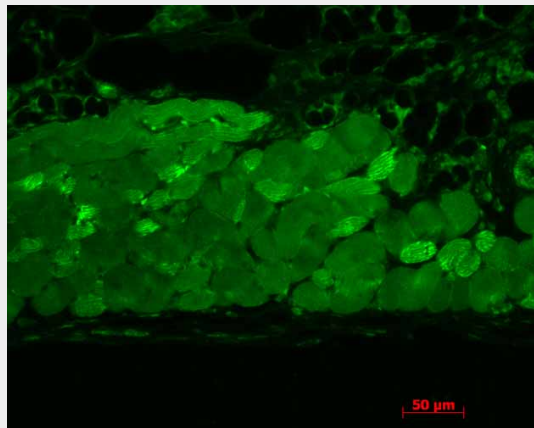
Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp90 Monoclonal Antibody, Clone 4F3.E8 (ASM10069). Tissue: HaCaT cells. Species: Human. Fixation: Cold 100% methanol for 10 minutes at -20°C. Primary Antibody: Mouse Anti-Hsp90 Monoclonal Antibody (ASM10069) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.



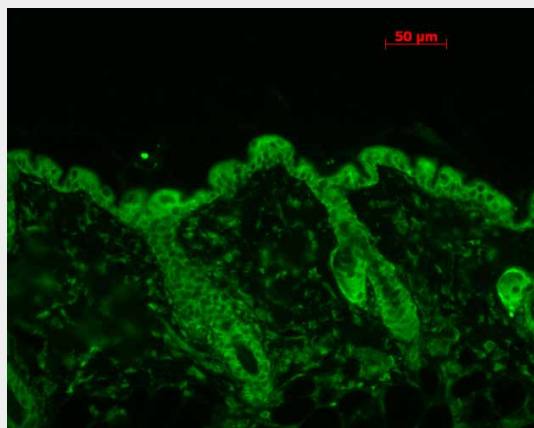
Immunohistochemistry analysis using Mouse Anti-Hsp90 Monoclonal Antibody, Clone 4F3.E8 (ASM10069). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp90 Monoclonal Antibody (ASM10069) at 1:100000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 µl for 2 minutes at RT. Localization: Inflammatory cells. Magnification: 40x.



Western Blot analysis of Rat tissue lysate showing detection of Hsp90 protein using Mouse Anti-Hsp90 Monoclonal Antibody, Clone 4F3.E8 (ASM10069). Load: 15  $\mu$ g. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp90 Monoclonal Antibody (ASM10069) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



Immunohistochemistry analysis using Mouse Anti-Hsp90 Monoclonal Antibody, Clone 4F3.E8 (ASM10069). Tissue: muscle tissue. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Hsp90 Monoclonal Antibody (ASM10069) at 1:1000 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.



Immunohistochemistry analysis using Mouse Anti-Hsp90 Monoclonal Antibody, Clone 4F3.E8

(ASM10069). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Hsp90 Monoclonal Antibody (ASM10069) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.

### **HSP90 (total) Antibody - Background**

HSP90 is an abundantly and ubiquitously expressed heat shock protein. It is understood to exist in two principal forms  $\alpha$  and  $\beta$ , which share 85% sequence amino acid homology. The two isoforms of HSP90 are expressed in the cytosolic compartment (1). Despite the similarities, HSP90 $\alpha$  exists predominantly as a homodimer while HSP90 $\beta$  exists mainly as a monomer (2). From a functional perspective, HSP90 participates in the folding, assembly, maturation, and stabilization of specific proteins as an integral component of a chaperone complex (3-6). Furthermore, HSP90 is highly conserved between species; having 60% and 78% amino acid similarity between mammalian and the corresponding yeast and *Drosophila* proteins, respectively.

HSP90 is a highly conserved and essential stress protein that is expressed in all eukaryotic cells. 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 (7-8). 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 (5). 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 (9). For more information visit our HSP90 Scientific Resource Guide at <http://www.HSP90.ca>.

### **HSP90 (total) Antibody - References**

1. Nemoto T. et al. (1997) *J. Biol. Chem.* 272: 26179-26187.
2. Minami, Y, et al. (1991), *J. Biol. Chem.* 266: 10099-10103.
3. Arlander SJH, et al. (2003) *J Biol Chem* 278: 52572-52577.
4. Pearl H, et al. (2001) *Adv Protein Chem* 59: 157-186.
5. Neckers L, et al. (2002) *Trends Mol Med* 8: S55-S61.
6. Pratt W, Toft D. (2003) *Exp Biol Med* 228: 111-133.
7. Pratt W, Toft D. (1997) *Endocr Rev* 18: 306-360.
8. Pratt WB. (1998) *Proc Soc Exptl Biol Med* 217: 420-434.
9. Whitesell L, et al. (1994) *Proc Natl Acad Sci USA* 91: 8324-8328.
10. Nemoto, T. (1997) *Biochem and Mol. Bio Intl.* 42 (5): 881-889.