



Anti-HSP90 alpha Antibody [Hyb-K41009]

Mouse Anti-Human HSP90 alpha
Monoclonal IgG2a
Catalog No. SMC-108



StressMarq
Biosciences INC.

Discovery through Partnership | Excellence through Quality

Product Name	HSP90 alpha Antibody
Description	Mouse Anti-Human HSP90 alpha Monoclonal IgG2a
Species Reactivity	Human, Mouse, Rat
Applications	WB, IHC, ELISA
Antibody Dilution	WB (1:1000), IHC (1:5000); optimal dilutions for assays should be determined by the user.
Host Species	Mouse
Immunogen Species	Human
Immunogen	Recombinant human HSP90alpha; Specificity mapped to amino acids 604-731
Concentration	1 mg/ml
Conjugates	ATTO 390, ATTO 488, ATTO 594, Biotin, FITC, Unconjugated
Field Of Use	Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

Properties

Storage Buffer	PBS pH7.2, 50% glycerol, 0.09% sodium azide *Storage buffer may change when conjugated
Storage Temperature	-20°C, Conjugated antibodies should be stored according to the product label
Shipping Temperature	Blue Ice or 4°C
Purification	Protein G Purified
Clonality	Monoclonal
Clone Number	Hyb-K41009
Isotype	IgG2a
Specificity	Detects 90kDa. This is an alpha-specific product.
Cite This Product	HSP90 alpha Antibody (StressMarq Biosciences Victoria, BC CANADA, Catalog# SMC-108, RRID: AB_854218)
Certificate Of Analysis	1 µg/ml of SMC-108 was sufficient for detection of HSP90alpha in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Biological Description

Alternative Names	HSP90AA1, HSP90-alpha, HSP90A, HSPCA, HSPC1, Heat shock protein HSP 90-alpha, Heat shock 90 kDa protein 1 alpha isoform, HSPCAL3, HSP86, HSP89A, HSP90Alpha
Research Areas	Cancer, Cell Signaling, Chaperone Proteins, Heat Shock, Protein Trafficking, Tumor Biomarkers
Cellular Localization	Cytoplasm, Melanosome
Accession Number	NP_001017963.2
Gene ID	3320
Swiss Prot	P07900
Scientific Background	HSP90α is a cytosolic isoform of the highly conserved heat shock protein 90 (HSP90) family, which plays a central role in maintaining protein homeostasis under both normal and stress conditions. Although HSP90α and its isoform HSP90β share 85% sequence identity, HSP90α

predominantly forms homodimers and is more dynamically regulated in response to cellular stress.

In the nervous system, HSP90α is essential for the folding, maturation, and stabilization of a wide range of client proteins, many of which are involved in synaptic signaling, neuronal survival, and stress response. These include kinases (e.g., c-Raf), transcription factors (e.g., p53), and hormone receptors—proteins that are often dysregulated in neurodegenerative diseases such as Alzheimer's, Parkinson's, and Huntington's disease.

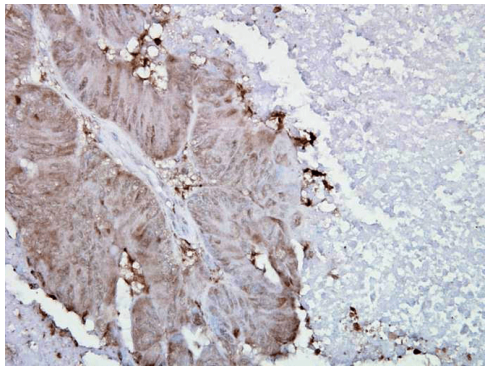
HSP90α functions as part of a multi-protein chaperone complex, interacting with co-chaperones like Cdc37 and p23. Upon ATP binding, HSP90α undergoes conformational changes that enable it to stabilize client proteins and prevent their degradation. However, in disease contexts, this protective mechanism can inadvertently preserve toxic protein species, contributing to pathogenesis.

Pharmacological inhibition of HSP90α—using agents like geldanamycin—has shown promise in disrupting these pathogenic interactions and restoring proteostasis in neurodegenerative models.

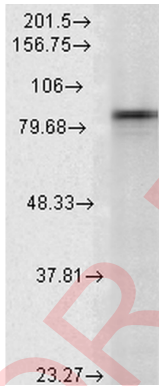
References

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.

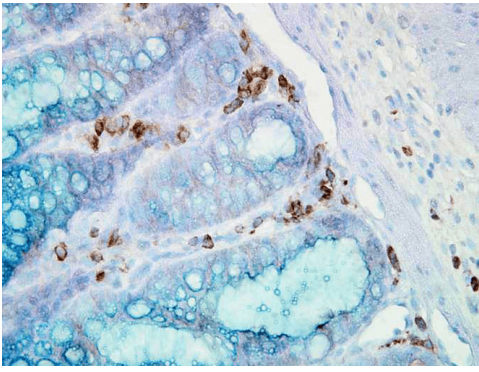
Product Images



Immunohistochemistry analysis using Mouse Anti-Hsp90 alpha Monoclonal Antibody, Clone K41009 (SMC-108). Tissue: colon carcinoma. Species: Human. Fixation: Formalin Primary Antibody: Mouse Anti-Hsp90 alpha Monoclonal Antibody (SMC-108) at 1:5000 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. This image was produced using an amplifying IHC wash buffer. The antibody has therefore been diluted more than is recommended for other applications.



Western Blot analysis of Rat Lysates showing detection of Hsp90 alpha protein using Mouse Anti-Hsp90 alpha Monoclonal Antibody, Clone K41009 (SMC-108). Load: 15 µg Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp90 alpha Monoclonal Antibody (SMC-108) 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 alpha Monoclonal Antibody, Clone K41009 (SMC-108). Tissue: inflamed colon. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp90 alpha Monoclonal Antibody (SMC-108) at 1:5000 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. Inflammatory cells. This image was produced using an amplifying IHC wash buffer. The antibody has therefore been diluted more than is recommended for other applications.