

# AHA-1 (E-1): sc-166065

## BACKGROUND

AHA-1 stimulates the inherent ATPase activity of yeast and human HSP 90 and interacts with the cytoplasmic tail of vesicular stomatitis virus glycoprotein. AHA-1 regulates HSP 90 by influencing the conformational state of the "ATP lid" and consequent N-terminal dimerization. It is crucial for cell viability under non-optimal growth conditions when HSP 90 levels are limiting. AHA-1 is a cytosolic protein and may transiently interact with the endoplasmic reticulum. It can have an effect on one step in the endoplasmic to Golgi trafficking. AHA-1 is expressed in numerous tissues, including brain, heart, skeletal muscle and kidney and, at lower levels, in liver and placenta. It is induced by heat shock and treatment with the HSP 90 inhibitor 17-demeth-oxygeldanamycin.

## REFERENCES

1. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34<sup>+</sup> hematopoietic stem/progenitor cells. *Genome Res.* 10: 1546-1560.
2. Hu, R.M., et al. 2000. Gene expression profiling in the human hypothalamus-pituitary-adrenal axis and full-length cDNA cloning. *Proc. Natl. Acad. Sci. USA* 97: 9543-9548.
3. Sevier, C.S., et al. 2001. p38: a novel protein that associates with the vesicular stomatitis virus glycoprotein. *Biochem. Biophys. Res. Commun.* 287: 574-582.
4. Panaretou, B., et al. 2002. Activation of the ATPase activity of HSP 90 by the stress-regulated cochaperone AHA-1. *Mol. Cell* 10: 1307-1318.
5. Lotz, G.P., et al. 2003. AHA-1 binds to the middle domain of HSP 90, contributes to client protein activation, and stimulates the ATPase activity of the molecular chaperone. *J. Biol. Chem.* 278: 17228-17235.

## CHROMOSOMAL LOCATION

Genetic locus: AHS1A1 (human) mapping to 14q24.3; Ahs1 (mouse) mapping to 12 D2.

## SOURCE

AHA-1 (E-1) is a mouse monoclonal antibody raised against amino acids 249-338 mapping at the C-terminus of AHA-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

AHA-1 (E-1) is recommended for detection of AHA-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AHA-1 siRNA (h): sc-44863, AHA-1 siRNA (m): sc-44864, AHA-1 shRNA Plasmid (h): sc-44863-SH, AHA-1 shRNA Plasmid (m): sc-44864-SH, AHA-1 shRNA (h) Lentiviral Particles: sc-44863-V and AHA-1 shRNA (m) Lentiviral Particles: sc-44864-V.

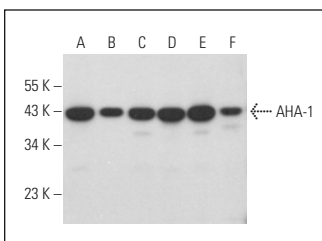
Molecular Weight of AHA-1: 38 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or NIH/3T3 whole cell lysate: sc-2210.

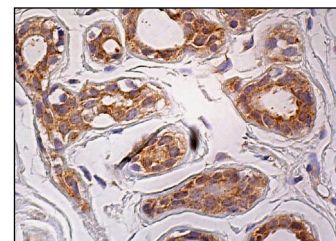
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



AHA-1 (E-1): sc-166065. Western blot analysis of AHA-1 expression in HeLa (A), Hep G2 (B), MCF7 (C), NIH/3T3 (D), Neuro-2A (E) and L6 (F) whole cell lysates.



AHA-1 (E-1): sc-166065. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.