SANTA CRUZ BIOTECHNOLOGY, INC.

HAH1 (D-9): sc-398742

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Delivery of copper to a specific P-type ATPase in the Golgi apparatus (Ccc2 in yeast, ATP7A and ATP7B in humans) is an important step in copper homeostasis that is accomplished by a small copper chaperone protein. HAH1 (also designated ATOX1), a metal transport protein that belongs to the ATX1 family, is involved in cellular antioxidant defense and can bind and deliver cytosolic copper to the copper ATPase proteins. Both HAH1 (the human homolog of Atx1) and Atx1 preferentially interact with domains 2 and 4 of ATP7B. Atx1 also interacts with both Ccc2 domains.

REFERENCES

1. Klomp, L.W., et al. 1997. Identification and functional expression of HAH1, a novel human gene involved in copper homeostasis. J. Biol. Chem. 272: 9221-9226.
2. Harrison, M.D., et al. 2000. Intracellular copper routing: the role of copper chaperones. Trends Biochem. Sci. 25: 29-32.
3. Boultwood, J., et al. 2000. Physical mapping of the human ATX1 homologue (HAH1) to the critical region of the 5q- syndrome within 5q32, and immediately adjacent to the SPARC gene. Hum. Genet. 106: 127-129.
4. van Dongen, E.M., et al. 2004. Copper-dependent protein-protein interactions studied by yeast two-hybrid analysis. Biochem. Biophys. Res. Commun. 323: 789-795.
5. Anastassopoulou, I., et al. 2004. Solution structure of the apo and copper(I)-loaded human metallochaperone HAH1. Biochemistry 43: 13046-13053.

CHROMOSOMAL LOCATION

Genetic locus: ATOX1 (human) mapping to 5q33.1.

SOURCE

HAH1 (D-9) is a mouse monoclonal antibody raised against amino acids 1-68 representing full length HAH1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HAH1 (D-9) is available conjugated to agarose (sc-398742 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398742 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398742 PE), fluorescein (sc-398742 FITC), Alexa Fluor® 488 (sc-398742 AF488), Alexa Fluor® 546 (sc-398742 AF546), Alexa Fluor® 594 (sc-398742 AF594) or Alexa Fluor® 647 (sc-398742 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398742 AF680) or Alexa Fluor® 790 (sc-398742 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

HAH1 (D-9) is recommended for detection of HAH1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HAH1 siRNA (h): sc-45252, HAH1 shRNA Plasmid (h): sc-45252-SH and HAH1 shRNA (h) Lentiviral Particles: sc-45252-V.

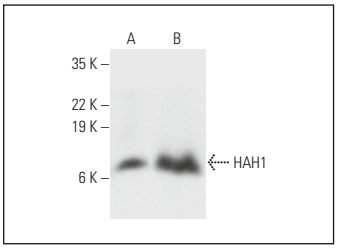
Molecular Weight of HAH1: 8 kDa.

Positive Controls: human kidney extract: sc-363764, A2058 whole cell lysate: sc-364178 or HeLa nuclear extract: sc-2120.

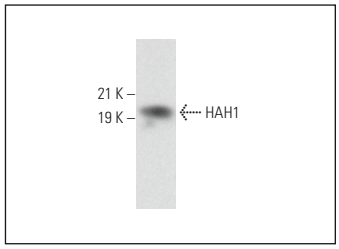
RECOMMENDED SUPPORT REAGENTS

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.

DATA



HAH1 (D-9): sc-398742. Western blot analysis of HAH1 expression in HeLa nuclear extract (**A**) and human kidney tissue extract (**B**).



HAH1 (D-9): sc-398742. Western blot analysis of HAH1 expression in A2058 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Tasic, D., et al. 2022. Effects of fructose and stress on rat renal copper metabolism and antioxidant enzymes function. Int. J. Mol. Sci. 23: 9023.
2. Meraz-Torres, F., et al. 2024. Augmenting MEK inhibitor efficacy in BRAF wild-type melanoma: synergistic effects of disulfiram combination therapy. J. Exp. Clin. Cancer Res. 43: 30.

RESEARCH USE

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