SANTA CRUZ BIOTECHNOLOGY, INC.

HACE1 (C-9): sc-515746

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). HACE1 (HECT domain and ankyrin repeat containing, E3 ubiquitin protein ligase 1), also known as KIAA1320, is a 909 amino acid protein that localizes to both the cytoplasm and the endoplasmic reticulum and contains one HECT domain and 6 ANK repeats. Expressed in kidney, heart and brain, HACE1 functions as an E3 ubiquitin-protein ligase that interacts with the proteasome and is thought to play a role in protein degradation. HACE1 is downregulated in Wilms tumor, suggesting a possible role in tumor suppression.

REFERENCES

1. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 65-73.
2. Fernandez, C.V., et al. 2001. Detection of a novel t(6;15)(q21;q21) in a pediatric Wilms' tumor. Cancer Genet. Cytogenet. 129: 165-167.
3. Anglesio, M.S., et al. 2004. Differential expression of a novel Ankyrin containing E3 ubiquitin-protein ligase, HACE1, in sporadic Wilms tumor versus normal kidney. Hum. Mol. Genet. 13: 2061-2074.
4. Zhang, L., et al. 2007. The E3 ligase HACE1 is a critical chromosome 6q21 tumor suppressor involved in multiple cancers. Nat. Med. 13: 1060-1069.
5. Hibi, K., et al. 2008. Aberrant methylation of the HACE1 gene is frequently detected in advanced colorectal cancer. Anticancer Res. 28: 1581-1584.

CHROMOSOMAL LOCATION

Genetic locus: HACE1 (human) mapping to 6q16.3; Hace1 (mouse) mapping to 10 B2.

SOURCE

HACE1 (C-9) is a mouse monoclonal antibody raised against amino acids 86-215 mapping within an internal region of HACE1 of human origin.

PRODUCT

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

HACE1 (C-9) is available conjugated to agarose (sc-515746 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515746 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515746 PE), fluorescein (sc-515746 FITC), Alexa Fluor® 488 (sc-515746 AF488), Alexa Fluor® 546 (sc-515746 AF546), Alexa Fluor® 594 (sc-515746 AF594) or Alexa Fluor® 647 (sc-515746 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515746 AF680) or Alexa Fluor® 790 (sc-515746 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HACE1 (C-9) is recommended for detection of HACE1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HACE1 siRNA (h): sc-95301, HACE1 siRNA (m): sc-145889, HACE1 shRNA Plasmid (h): sc-95301-SH, HACE1 shRNA Plasmid (m): sc-145889-SH, HACE1 shRNA (h) Lentiviral Particles: sc-95301-V and HACE1 shRNA (m) Lentiviral Particles: sc-145889-V.

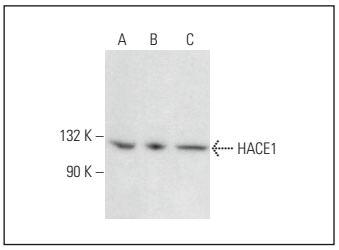
Molecular Weight of HACE1: 103 kDa.

Positive Controls: F9 cell lysate: sc-2245, AN3 CA cell lysate: sc-24662 or RPMI2650 whole cell lysate: sc-364192.

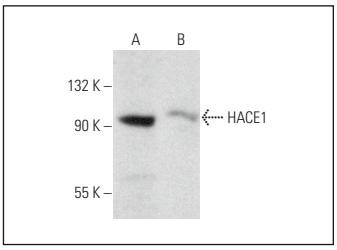
RECOMMENDED SUPPORT REAGENTS

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



HACE1 (C-9): sc-515746. Western blot analysis of HACE1 expression in AN3 CA (**A**), F9 (**B**) and NIH/3T3 (**C**) whole cell lysates.



HACE1 (C-9): sc-515746. Western blot analysis of HACE1 expression in RPMI2650 (**A**) and AN3 CA (**B**) whole cell lysates.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.