SANTA CRUZ BIOTECHNOLOGY, INC.

# ETHE1 (B-12): sc-393869

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

ETHE1 (ethylmalonic encephalopathy 1), also known as HSCO (hepatoma subtracted clone one protein), is a 254 amino acid protein belonging to the metallo-β-lactamase superfamily and glyoxalase II family. Localizing to the cytoplasm, nucleus and mitochondrion matrix, ETHE1 is ubiquitously expressed and may function in sulfide catabolism. ETHE1 binds two zinc ions per subunit and interacts directly with RELA, preventing its localization to the nucleus thus leading to suppressed p53-induced apoptosis. The gene encoding ETHE1 maps to human chromosome 19q13.31. Mutations to this gene result in ethylmalonic encephalopathy, an infantile metabolic disorder characterized by high levels of ethylmalonic acid, neurodevelopmental delay and regression, recurrent petechiae, acrocyanosis, and death within the first decade of life.

## REFERENCES


1. Higashitsuji, H., et al. 2002. A novel protein overexpressed in hepatoma accelerates export of NFκB from the nucleus and inhibits p53-dependent apoptosis. Cancer Cell 2: 335-346.
2. Mootha, V.K., et al. 2003. Identification of a gene causing human cytochrome c oxidase deficiency by integrative genomics. Proc. Natl. Acad. Sci. USA 100: 605-610.
3. Tiranti, V., et al. 2004. Ethylmalonic encephalopathy is caused by mutations in ETHE1, a gene encoding a mitochondrial matrix protein. Am. J. Hum. Genet. 74: 239-252.
4. Higashitsuji, H., et al. 2007. Enhanced deacetylation of p53 by the anti-apoptotic protein HSCO in association with histone deacetylase 1. J. Biol. Chem. 282: 13716-13725.


## CHROMOSOMAL LOCATION

Genetic locus: ETHE1 (human) mapping to 19q13.31; Ethe1 (mouse) mapping to 7 A3.

## SOURCE

ETHE1 (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 185-214 within an internal region of ETHE1 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.

ETHE1 (B-12) is available conjugated to agarose (sc-393869 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393869 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393869 PE), fluorescein (sc-393869 FITC), Alexa Fluor® 488 (sc-393869 AF488), Alexa Fluor® 546 (sc-393869 AF546), Alexa Fluor® 594 (sc-393869 AF594) or Alexa Fluor® 647 (sc-393869 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393869 AF680) or Alexa Fluor® 790 (sc-393869 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393869 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

ETHE1 (B-12) is recommended for detection of ETHE1 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 ETHE1 siRNA (h): sc-97755, ETHE1 siRNA (m): sc-144957, ETHE1 shRNA Plasmid (h): sc-97755-SH, ETHE1 shRNA Plasmid (m): sc-144957-SH, ETHE1 shRNA (h) Lentiviral Particles: sc-97755-V and ETHE1 shRNA (m) Lentiviral Particles: sc-144957-V.

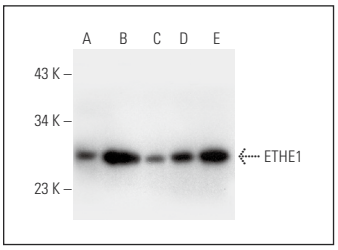
Molecular Weight of ETHE1: 28 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

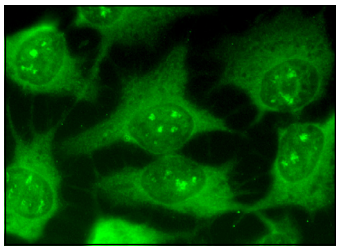
## RECOMMENDED SUPPORT REAGENTS

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




ETHE1 (B-12): sc-393869. Western blot analysis of ETHE1 expression in Jurkat (**A**), SW480 (**B**), HeLa (**C**), Hep G2 (**D**) and COLO 205 (**E**) whole cell lysates.



ETHE1 (B-12): sc-393869. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic, nuclear and nucleolar localization.

## 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.