

BCAT2 (H-210): sc-134964

BACKGROUND

Class-IV pyridoxal-phosphate-dependent aminotransferase family members ECA39 and BCAT2 are both enzymes that catalyze the first reaction in the catabolism of the essential branched chain amino acids valine, leucine and isoleucine. ECA39, also known as BCAT1 (branched-chain-amino-acid aminotransferase 1, cytosolic) is localized to the cytoplasm where it forms a homodimer. ECA39 is expressed in the brain and kidney during embryogenesis and is overexpressed in c-Myc induced tumors. BCAT2 (branched-chain-amino-acid aminotransferase 2, mitochondrial), also known as placental protein 18 (PP18), is expressed as two isoforms produced by alternative splicing. The first isoform of BCAT2, designated BCAT2A, is expressed in the mitochondrion, while the second isoform, designated BCAT2B, is expressed in the cytoplasm. Ubiquitously expressed, BCAT2 is also thought to act as a transporter of branched chain α -keto acids.

REFERENCES

- Schuldiner, O., Eden, A., Ben-Yosef, T., Yanuka, O., Simchen, G. and Benvenisty, N. 1996. ECA39, a conserved gene regulated by c-Myc in mice, is involved in G₁/S cell cycle regulation in yeast. *Proc. Natl. Acad. Sci. USA* 93: 7143-7148.
- Ben-Yosef, T., Eden, A. and Benvenisty, N. 1998. Characterization of murine BCAT genes: Bcat1, a c-Myc target, and its homolog, Bcat2. *Mamm. Genome* 9: 595-597.
- Eden, A. and Benvenisty, N. 1999. Involvement of branched-chain amino acid aminotransferase (BCAT1/ECA39) in apoptosis. *FEBS Lett.* 457: 255-261.
- Grimm, C.H., Rogner, U.C. and Avner, P. 2003. Lrmp and Bcat1 are candidates for the type I diabetes susceptibility locus Idd6. *Autoimmunity* 36: 241-246.
- Yoshikawa, R., Yanagi, H., Shen, C.S., Fujiwara, Y., Noda, M., Yagyu, T., Gega, M., Oshima, T., Yamamura, T., Okamura, H., Nakano, Y., Morinaga, T. and Hashimoto-Tamaoki, T. 2006. ECA39 is a novel distant metastasis-related biomarker in colorectal cancer. *World J. Gastroenterol.* 12: 5884-5889.

CHROMOSOMAL LOCATION

Genetic locus: BCAT2 (human) mapping to 19q13.33; Bcat2 (mouse) mapping to 7 B4.

SOURCE

BCAT2 (H-210) is a rabbit polyclonal antibody raised against amino acids 144-353 mapping within an internal region of BCAT2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG 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.

APPLICATIONS

BCAT2 (H-210) is recommended for detection of BCAT2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

BCAT2 (H-210) is also recommended for detection of BCAT2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for BCAT2 siRNA (h): sc-97896, BCAT2 siRNA (m): sc-141665, BCAT2 shRNA Plasmid (h): sc-97896-SH, BCAT2 shRNA Plasmid (m): sc-141665-SH, BCAT2 shRNA (h) Lentiviral Particles: sc-97896-V and BCAT2 shRNA (m) Lentiviral Particles: sc-141665-V.

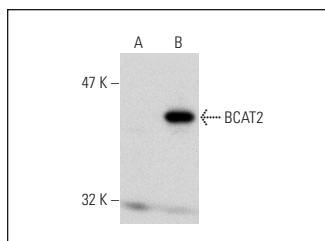
Molecular Weight of BCAT2 isoforms: 44/34 kDa.

Positive Controls: BCAT2 (h2): 293T Lysate: sc-172720.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



BCAT2 (H-210): sc-134964. Western blot analysis of BCAT2 expression in non-transfected: sc-117752 (A) and human BCAT2 transfected: sc-172720 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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