

BCAT2 (h2): 293T Lysate: sc-172720

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

1. 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.
2. 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.
3. Eden, A. and Benvenisty, N. 1999. Involvement of branched-chain amino acid aminotransferase (Bcat1/Eca39) in apoptosis. *FEBS Lett.* 457: 255-261.
4. 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.
5. 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.
6. Zhou, W., Feng, X., Li, H., Wang, L., Li, H., Zhu, B., Zhang, H., Yao, K. and Ren, C. 2007. Functional evidence for a nasopharyngeal carcinoma-related gene BCAT1 located at 12p12. *Oncol. Res.* 16: 405-413.
7. Conway, M.E., Coles, S.J., Islam, M.M. and Hutson, S.M. 2008. Regulatory control of human cytosolic branched-chain aminotransferase by oxidation and S-glutathionylation and its interactions with redox sensitive neuronal proteins. *Biochemistry* 47: 5465-5479.

CHROMOSOMAL LOCATION

Genetic locus: BCAT2 (human) mapping to 19q13.33.

PRODUCT

BCAT2 (h2): 293T Lysate represents a lysate of human BCAT2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

BCAT2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive BCAT2 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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