Ect2 (h): 293 Lysate: sc-110479



The Power to Question

BACKGROUND

Numerous cellular functions such as proliferation, differentiation, apoptosis, vesicular trafficking, nuclear transport and cytoskeletal organization are controlled by GTPases. It has become increasingly clear that GTPases act in cascades in which their activities are linked by GTPase-activating proteins (GAPs) and guanine nucleotide exchange factors (GEFs). In a search for new epithelial cell-specific oncogenes using a highly efficient cDNA expression cloning system, the Ost oncogene was isolated from rat osteosarcoma cells. The Ost proto-oncogene protein contains DH and PH domains and catalyzes guanine nucleotide exchange on Rho A and Cdc42 and interacts specifically with the GTP-bound form of Rac 1. A similar protein, Ect2, specifically interacts with Rho and Rac proteins *in vitro*. Ect2 shares sequence homology with the 255 amino acid central core of the breakpoint cluster gene, Bcr, as well as with yeast Cdc24 and the Dbl oncogene, all of which have been shown to modulate the function of small Rho-like GTP binding proteins. The Ect2 protein contains both PH and DH domains.

REFERENCES

- Miki, T., Fleming, T.P., Crescenzi, M., Molloy, C.J., Blam, S.B., Reynolds, S.H. and Aaronson, S.A. 1991. Development of a highly efficient expression cDNA cloning system: application to oncogene isolation. Proc. Natl. Acad. Sci. USA 88: 5167-5171.
- Ron, D., Zannini, M., Lewis, M., Wickner, R.B., Hunt, L.T., Graziani, G., Tronick, S.R., Aaronson, S.A. and Eva, A. 1991. A region of proto-Dbl essential for its transforming activity shows sequence similarity to a yeast cell cycle gene, Cdc24, and the human breakpoint cluster gene, Bcr. New Biol. 3: 372-379.
- Mayer, B.J., Ren, R., Clark, K.L. and Baltimore, D. 1993. A putative modular domain present in diverse signaling proteins. Cell 73: 629-630.
- 4. Miki, T., Smith, C.L., Long, J.E., Eva, A. and Fleming, T.P. 1993. Oncogene Ect2 is related to regulators of small GTP-binding proteins. Nature 362: 462-465.
- Boguski, M.S. and McCormick, F. 1993. Proteins regulating Ras and its relatives. Nature 366: 643-654.
- Horii, Y., Beeler, J.F., Sakaguchi, K., Tachibana, M. and Miki, T. 1994. A novel oncogene, Ost, encodes a guanine nucleotide exchange factor that potentially links Rho and Rac signaling pathways. EMBO J. 13: 4776-4786.
- 7. Hart, M.J., Eva, A., Zangrilli, D., Aaronson, S.A., Evans, T., Cerione, R.A. and Zheng, Y. 1994. Cellular transformation and guanine nucleotide exchange activity are catalyzed by a common domain on the Dbl oncogene product. J. Biol. Chem. 269: 62-65.
- 8. Chant, J. and Stowers, L. 1995. GTPase cascades choreographing cellular behavior: movement, morphogenesis, and more. Cell 81: 1-4.

CHROMOSOMAL LOCATION

Genetic locus: ECT2 (human) mapping to 3g26.31.

RESEARCH USE

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

PRODUCT

Ect2 (h): 293 Lysate represents a lysate of human Ect2 transfected 293 cells and is provided as $100 \mu g$ protein in 200 μl SDS-PAGE buffer.

APPLICATIONS

Ect2 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive Ect2 antibodies. Recommended use: 10-20 µl per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 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.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com