

## Ect2 (C-20): sc-1005

### 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 RhoA and Cdc42 and interacts specifically with the GTP-bound form of Rac1. 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 contains both PH and DH domains.

### CHROMOSOMAL LOCATION

Genetic locus: ECT2 (human) mapping to 3q26.31; Ect2 (mouse) mapping to 3 A3.

### SOURCE

Ect2 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Ect2 of mouse origin.

### PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1005 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Ect2 (C-20) is recommended for detection of Ect2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Ect2 (C-20) is also recommended for detection of Ect2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Ect2 siRNA (h): sc-35259, Ect2 siRNA (m): sc-35260, Ect2 shRNA Plasmid (h): sc-35259-SH, Ect2 shRNA Plasmid (m): sc-35260-SH, Ect2 shRNA (h) Lentiviral Particles: sc-35259-V and Ect2 shRNA (m) Lentiviral Particles: sc-35260-V.

Molecular Weight of Ect2: 100 kDa.

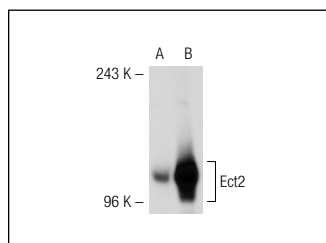
### STORAGE

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

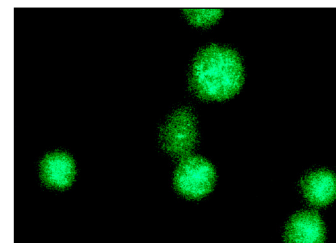
### RESEARCH USE

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

### DATA



Ect2 (C-20): sc-1005. Western blot analysis of Ect2 expression in non-transfected: sc-117752 (A) and mouse Ect2 transfected: sc-119914 (B) 293T whole cell lysates.



Ect2 (C-20): sc-1005. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear staining.

### SELECT PRODUCT CITATIONS

- Reiter, L.T., et al. 2006. Expression of the Rho-GEF Pbl/ECT2 is regulated by the UBE3A E3 ubiquitin ligase. *Hum. Mol. Genet.* 15: 2825-2835.
- Dadke, D., et al. 2006. Deregulation of HEF1 impairs M-phase progression by disrupting the RhoA activation cycle. *Mol. Biol. Cell* 17: 1204-1217.
- Hara, T., et al. 2006. Cytokinesis regulator ECT2 changes its conformation through phosphorylation at Thr-341 in G<sub>2</sub>/M phase. *Oncogene* 25: 566-578.
- Mallakin, A., et al. 2010. The Arf-inducing transcription factor Dmp1 encodes a transcriptional activator of amphiregulin, thrombospondin-1, JunB and Egr1. *Int. J. Cancer* 126: 1403-1416.
- Elbaz, J., et al. 2010. Epithelial cell transforming protein 2 (ECT2) depletion blocks polar body extrusion and generates mouse oocytes containing two metaphase II spindles. *Endocrinology* 151: 755-765.
- Islam, M.S., et al. 2010. Expression of a Rho guanine nucleotide exchange factor, Ect2, in the developing mouse pituitary. *J. Neuroendocrinol.* 22: 477-482.
- Akimov, V., et al. 2011. Characterization of ubiquitination dependent dynamics in growth factor receptor signaling by quantitative proteomics. *Mol. Biosyst.* 7: 3223-3233.
- Sánchez-Morgan, N., et al. 2011. The lysyl oxidase propeptide interacts with the receptor-type protein tyrosine phosphatase  $\kappa$  and inhibits  $\beta$ -catenin transcriptional activity in lung cancer cells. *Mol. Cell. Biol.* 31: 3286-3297.
- Guilluy, C., et al. 2011. The Rho GEFs LARG and GEF-H1 regulate the mechanical response to force on integrins. *Nat. Cell Biol.* 13: 722-727.

**MONOS**  
Satisfaction  
Guaranteed

Try **Ect2 (G-4): sc-514750** or **Ect2 (E-1): sc-514769**, our highly recommended monoclonal alternatives to Ect2 (C-20).