



Epac (h): 293T Lysate: sc-111627

BACKGROUND

3',5' cyclic adenosine monophosphate (cAMP)-regulated guanine nucleotide exchange factors Epac1 (Epac, cAMP-GEFI) and Epac2 (cAMP-GEFII) activate the Ras family GTPases Rap1 and Rap2 by promoting GTP binding in a cAMP-dependent manner. Eukaryotic cAMP is a second messenger that induces physiological responses such as gene expression, growth, differentiation, secretion and neurotransmission. The human Epac gene maps to chromosome 12q13.11 with transcript being abundant in the kidney and heart. *In situ* hybridization indicates expression of Epac in adult rat brain and selective expression in neonatal brain, including septum and thalamus.

REFERENCES

1. Kawasaki, H., Springett, G.M., Mochizuki, N., Toki, S., Nakaya, M., Matsuda, M., Housman, D.E. and Graybiel, A.M. 1998. A family of cAMP-binding proteins that directly activate Rap1. *Science* 282: 2275-2279.
2. de Rooij, J., Rehmann, H., van Triest, M., Cool, R.H., Wittinghofer, A. and Bos, J.L. 2000. Mechanism of regulation of the Epac family of cAMP-dependent RapGEFs. *J. Biol. Chem.* 275: 20829-20836.
3. Ueno, H., Shibasaki, T., Iwanaga, T., Takahashi, K., Yokoyama, Y., Liu, L.M., Yokoi, N., Ozaki, N., Matsukura, S., Yano, H. and Seino, S. 2001. Characterization of the gene Epac2: structure, chromosomal localization, tissue expression, and identification of the liver-specific isoform. *Genomics* 78: 91-98.
4. Fujimoto, K., Shibasaki, T., Yokoi, N., Kashima, Y., Matsumoto, M., Sasaki, T., Tajima, N., Iwanaga, T. and Seino, S. 2002. Piccolo, a Ca^{2+} sensor in pancreatic β -cells. Involvement of cAMP-GEFII·Rim2·Piccolo complex in cAMP-dependent exocytosis. *J. Biol. Chem.* 277: 50497-50502.
5. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 606057. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. LocusLink Report (LocusID: 10411). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: RAPGEF3 (human) mapping to 12q13.11.

PRODUCT

Epac (h): 293T Lysate represents a lysate of human Epac transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

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

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.