

Epac2 (N-15): sc-26364

BACKGROUND

3',5' cyclic adenosine monophosphate (cAMP)-regulated guanine nucleotide exchange factors Epac1 (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. Human EPAC2 contains at least 31 exons and maps to chromosome 2q31.1. The 4.4-kb Epac2 transcript is prominent in brain and adrenal gland. Within the brain, expression is strong in cortex, occipital pole, frontal lobe, temporal lobe, amygdala, putamen, hippocampus and cerebellum.

REFERENCES

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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. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606058. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Fujimoto, K., Shibasaki, T., Yokoi, N., Kashima, Y., Matsumoto, M., Sasaki, T., Tajima, N., Iwanaga, T. and Seino, S. 2002. Piccolo, a Ca²⁺ sensor in pancreatic β -cells. Involvement of cAMP-GEFII.Rim2. Piccolo complex in cAMP-dependent exocytosis. *J. Biol. Chem.* 277: 50497-50502.
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CHROMOSOMAL LOCATION

Genetic locus: RAPGEF4 (human) mapping to 2q31.1; Rapgef4 (mouse) mapping to 2 C3.

SOURCE

Epac2 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Epac2 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.

Blocking peptide available for competition studies, sc-26364 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Epac2 (N-15) is recommended for detection of Epac2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Epac2 (N-15) is also recommended for detection of Epac2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Epac2 siRNA (h): sc-41702, Epac2 siRNA (m): sc-41703, Epac2 shRNA Plasmid (h): sc-41702-SH, Epac2 shRNA Plasmid (m): sc-41703-SH, Epac2 shRNA (h) Lentiviral Particles: sc-41702-V and Epac2 shRNA (m) Lentiviral Particles: sc-41703-V.

Molecular Weight of Epac2: 126 kDa.

Positive Controls: rat cerebellum extract: sc-2398, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.



Try **Epac2 (A-7): sc-28326** or **Epac2 (C-6): sc-390690**, our highly recommended monoclonal alternatives to Epac2 (N-15).