

# Epac (N-16): sc-8879

## 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 Rap 1 and Rap 2 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.

## CHROMOSOMAL LOCATION

Genetic locus: RAPGEF3 (human) mapping to 12q13.11; Rapgef3 (mouse) mapping to 15 F1.

## SOURCE

Epac (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Epac of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8879 P, (100 µg 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.

## RESEARCH USE

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

## APPLICATIONS

Epac (N-16) is recommended for detection of Epac 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Epac (N-16) is also recommended for detection of Epac in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Epac siRNA (h): sc-41700, Epac siRNA (m): sc-41701, Epac shRNA Plasmid (h): sc-41700-SH, Epac shRNA Plasmid (m): sc-41701-SH, Epac shRNA (h) Lentiviral Particles: sc-41700-V and Epac shRNA (m) Lentiviral Particles: sc-41701-V.

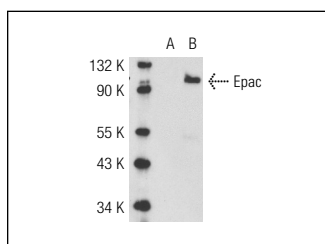
Molecular Weight of Epac: 99 kDa.

Positive Controls: Epac (h4): 293T Lysate: sc-170772, Caki-1 cell lysate: sc-2224 or HeLa whole cell lysate: sc-2200.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Epac (N-16): sc-8879. Western blot analysis of Epac expression in non-transfected: sc-117752 (A) and human Epac transfected: sc-170772 (B) 293T whole cell lysates.



Epac (N-16): sc-8879. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing membrane staining of myocytes.

## SELECT PRODUCT CITATIONS

- Laroche-Joubert, N., et al. 2002. Protein kinase A-independent activation of ERK and H,K-ATPase by cAMP in native kidney cells: role of Epac I. *J. Biol. Chem.* 277: 18598-18604.
- McPartlin, L.A., et al. 2011. Guanine-nucleotide exchange factors (RAPGEF3/RAPGEF4) induce sperm membrane depolarization and acrosomal exocytosis in capacitated stallion sperm. *Biol. Reprod.* 85: 179-188.
- Corredor, R.G., et al. 2012. Soluble adenylyl cyclase activity is necessary for retinal ganglion cell survival and axon growth. *J. Neurosci.* 32: 7734-7744.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Epac (A-5): sc-28366**, our highly recommended monoclonal alternative to Epac (N-16). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Epac (A-5): sc-28366**.