SANTA CRUZ BIOTECHNOLOGY, INC.

# Epac2 (M-18): sc-9383

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Epac2 (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Epac2 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-9383 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Epac2 (M-18) 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), 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).

Epac2 (M-18) is also recommended for detection of Epac2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Epac2 siRNA (h): sc-41702, Epac2 siRNA (m): sc-41703, Epac2 siRNA (r): sc-270233, Epac2 shRNA Plasmid (h): sc-41702-SH, Epac2 shRNA Plasmid (m): sc-41703-SH, Epac2 shRNA Plasmid (r): sc-270233-SH, Epac2 shRNA (h) Lentiviral Particles: sc-41702-V, Epac2 shRNA (m) Lentiviral Particles: sc-41703-V and Epac2 shRNA (r) Lentiviral Particles: sc-270233-V.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.

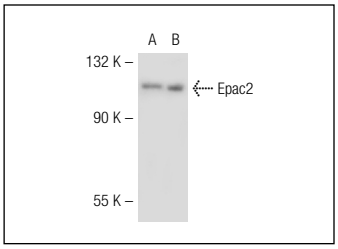
## STORAGE

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




Epac2 (M-18): sc-9383. Western blot analysis of Epac2 expression in rat cerebellum (**A**) and rat brain (**B**) tissue extracts.

## SELECT PRODUCT CITATIONS


1. Fujita, T., et al. 2002. New signaling pathway for parathyroid hormone and cyclic AMP action on extracellular-regulated kinase and cell proliferation in bone cells. Checkpoint of modulation by cyclic AMP. J. Biol. Chem. 277: 22191-22200.
2. Magiera, M.M., et al. 2004. Exchange protein directly activated by cAMP (EPAC) interacts with the light chain (LC) 2 of MAP1A. Biochem. J. 382: 803-810.
3. Lotfi, S., et al. 2006. Role of the exchange protein directly activated by cyclic adenosine 5'-monophosphate (Epac) pathway in regulating proglucagon gene expression in intestinal endocrine L cells. Endocrinology 147: 3727-3736.
4. Tovey, S.C., et al. 2008. Selective coupling of type 6 adenylyl cyclase with type 2 IP3 receptors mediates direct sensitization of IP3 receptors by cAMP. J. Cell Biol. 183: 297-311.
5. Islam, D., et al. 2009. Epac is involved in cAMP-stimulated proglucagon expression and hormone production but not hormone secretion in pancreatic $\alpha$- and intestinal L-cell lines. Am. J. Physiol. Endocrinol. Metab. 296: E174-E181.
6. Aumo, L., et al. 2010. Functional roles of protein kinase A (PKA) and exchange protein directly activated by 3',5'-cyclic adenosine 5'-monophosphate (cAMP) 2 (EPAC2) in cAMP-mediated actions in adrenocortical cells. Endocrinology 151: 2151-2161.


## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS Satisfaction Guaranteed

Try **Epac2 (A-7): sc-28326** or **Epac2 (C-6): sc-390690**, our highly recommended monoclonal aternatives to Epac2 (M-18).