

Epac (H-70): sc-25632

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 (H-70) is a rabbit polyclonal antibody raised against amino acids 43-112 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.

Available as agarose conjugate for immunoprecipitation, sc-25632 AC, 500 µg/0.25 ml agarose in 1 ml.

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 (H-70) 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Epac (H-70) 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.

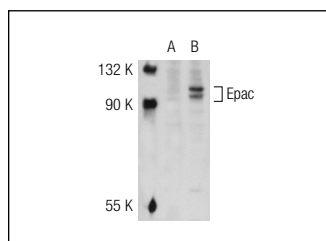
Molecular Weight of Epac: 99 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, Epac (h2): 293T Lysate: sc-113416 or HeLa whole cell lysate: sc-2200.

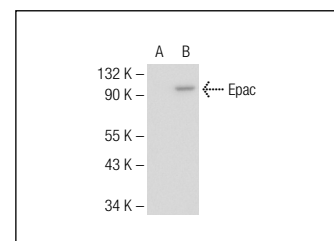
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Epac (H-70): sc-25632. Western blot analysis of Epac expression in non-transfected: sc-117752 (A) and human Epac transfected: sc-113416 (B) 293T whole cell lysates.



Epac (H-70): sc-25632. Western blot analysis of Epac expression in non-transfected: sc-117752 (A) and human Epac transfected: sc-170772 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Potapova, I.A., et al. 2007. Voltage-gated ion channel Kv4.3 is associated with Rap guanine nucleotide exchange factors and regulates angiotensin receptor type 1 signaling to small G-protein Rap. *FEBS J.* 274: 4375-4384.
2. Huston, E., et al. 2008. Epac and PKA allow cAMP dual control over DNA-PK nuclear translocation. *Proc. Natl. Acad. Sci. USA* 105: 12791-12796.
3. Liu, C., et al. 2010. The interaction of Epac1 and Ran promotes Rap1 activation at the nuclear envelope. *Mol. Cell. Biol.* 30: 3956-3969.
4. Hochbaum, D., et al. 2011. Radixin assembles cAMP effectors Epac and PKA into a functional cAMP compartment: role in cAMP-dependent cell proliferation. *J. Biol. Chem.* 286: 859-866.

PROTOCOLS

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

MONOS
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Try **Epac (A-5): sc-28366**, our highly recommended monoclonal alternative to Epac (H-70). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Epac (A-5): sc-28366**.