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EPAC1 Antibody
Catalog # ASC11418

Specification

EPAC1 Antibody - Product Information

Application	**WB, IHC-P, IF, E**
Primary Accession	O95398
Other Accession	NP_001092001, 10411
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**EPAC1 antibody can be used for detection of EPAC1 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.**

EPAC1 Antibody - Additional Information

Gene ID **10411**

Target/Specificity
EPAC1 antibody was raised against an 18 amino acid synthetic peptide near the amino terminus of human EPAC1.

The immunogen is located within amino acids 60 - 110 of EPAC1.

Reconstitution & Storage
EPAC1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
EPAC1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

EPAC1 Antibody - Protein Information

Name RAPGEF3

Synonyms CGEF1, EPAC, EPAC1

Function
Guanine nucleotide exchange factor (GEF) for RAP1A and RAP2A small GTPases that is activated by binding cAMP. Through simultaneous binding of PDE3B to RAPGEF3 and PIK3R6 is assembled in a signaling complex in which it activates the PI3K gamma complex and which is involved in angiogenesis. Plays a role in the modulation of the cAMP- induced dynamic control of endothelial barrier function through a pathway that is independent on Rho-mediated signaling. Required for the actin rearrangement at cell-cell junctions, such as stress fibers and junctional actin.

Cellular Location
Endomembrane system

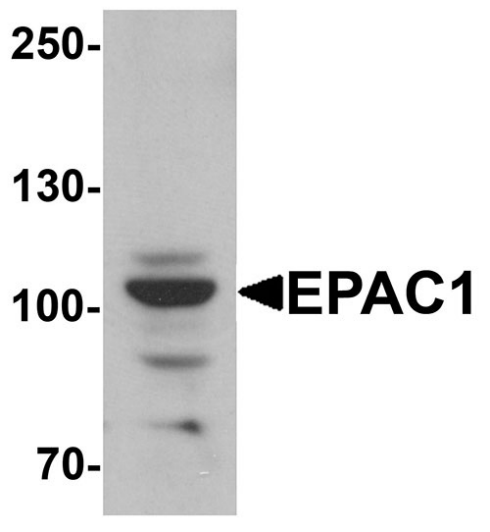
Tissue Location
Widely expressed with highest levels in adult kidney, heart, thyroid and brain, and fetal kidney

EPAC1 Antibody - Protocols

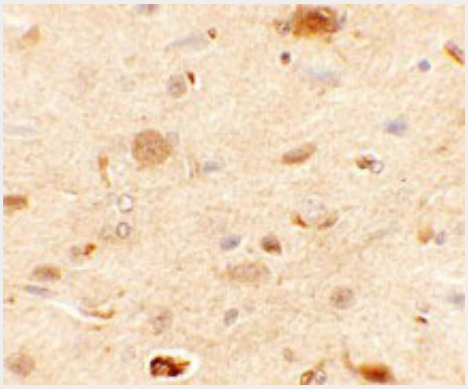
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

EPAC1 Antibody - Images



Western blot analysis of EPAC1 in rat skeletal muscle tissue lysate with EPAC1 antibody at 1 µg/mL.



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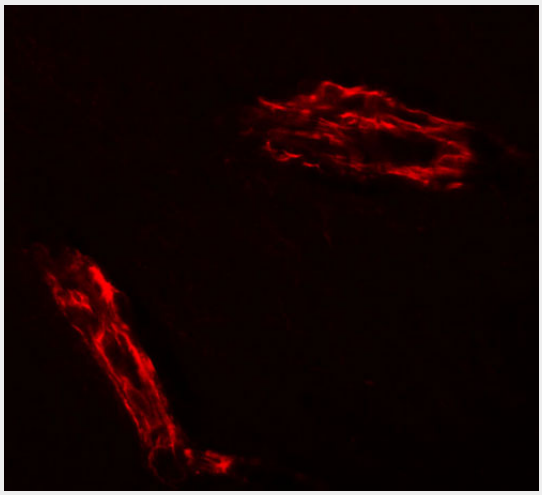
Immunohistochemistry of EPAC1 in rat brain tissue with EPAC1 antibody at 2.5 µg/mL.



Immunofluorescence of EPAC1 in rat brain tissue with EPAC1 antibody at 20 µg/mL.

EPAC1 Antibody - Background

EPAC1 Antibody: EPAC1, also known as Rap guanine nuclear exchange factor 3 and cAMPGEF-I, is widely expressed but most prominently in brain, heart, kidney, pancreas, spleen, ovary, thyroid and spinal cord. EPAC1 is a cAMP-binding protein with intrinsic guanine nuclear exchange factor activity that couples cAMP production to the activation of Rap, a GTPase belonging to the Ras family. This activation of Rap influences numerous cellular processes such as integrin-mediated cell adhesion, vascular endothelial barrier formation, and cardiac myocyte gap junction formation. Recently, EPAC1 has been suggested to also be involved in the cAMP-dependent regulation of ion channel formation, intracellular Ca++ signalling, ion transporter activity, and exocytosis.

EPAC1 Antibody - References

de Rooij J, Zwartkruis FJ, Verheijen MH, et al. Epac is a Rap1 guanine-nucleotide-exchange factor directly activated by cyclic AMP. Nature 1998; 396:474-7.
Bos JL. Epac: a new cAMP target and new avenues. Hum. Immunol. 2004; 65:282-90.
Holz GG, Kang G, Harbeck M, et al. Cell physiology of cAMP sensor Epac. J. Physiol. 2006; 577:5-15.