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# EPAC2 Antibody

Catalog # ASC11419

## Product Information

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| **Application** | WB, IF, E, IHC-P |
| **Primary Accession** | Q8WZA2 |
| **Other Accession** | NP_008954, 155030204 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 115522 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | EPAC2 antibody can be used for detection of EPAC1 by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL. |

## Additional Information

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| **Gene ID** | 11069 |
| **Other Names** | Rap guanine nucleotide exchange factor 4, Exchange factor directly activated by cAMP 2, Exchange protein directly activated by cAMP 2, EPAC 2, cAMP-regulated guanine nucleotide exchange factor II, cAMP-GEFII, RAPGEF4, CGEF2, EPAC2 |
| **Target/Specificity** | RAPGEF4; At least two isoforms of EPAC2 are known to exist; this antibody will detect only the larger isoform. EPAC2 antibody is predicted to not cross-react with EPAC2 |
| **Reconstitution & Storage** | EPAC2 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** | EPAC2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | RAPGEF4 |
| **Synonyms** | CGEF2, EPAC2 |
| **Function** | Guanine nucleotide exchange factor (GEF) for RAP1A, RAP1B and RAP2A small GTPases that is activated by binding cAMP. Does not seem to activate RAB3A. Involved in cAMP-dependent, PKA-independent exocytosis through |

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| | interaction with RIMS2 (By similarity). |
| **Cellular Location** | Cytoplasm. Membrane; Peripheral membrane protein |
| **Tissue Location** | Predominantly expressed in brain and adrenal gland. Isoform 2 is expressed in liver. Isoform 1 is expressed in liver at very low levels |

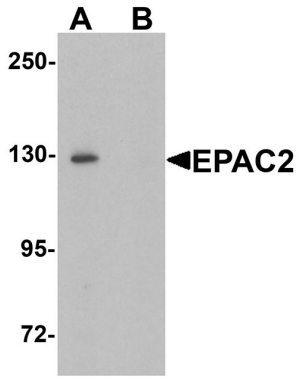
## Background

EPAC2 Antibody: EPAC2, also known as Rap guanine nuclear exchange factor 4 and cAMPGEF-II, is belongs to a family of cyclic adenosine monophosphate (cAMP) binding proteins with guanine nucleotide exchange factor. Like the related protein EPAC1, EPAC2 signaling plays a role in numerous cellular processes such as integrin-mediated cell adhesion, muscle contraction, learning and memory, cell proliferation, and inflammation. Recent evidence suggests that EPAC2 induces synapse remodeling and depression, with mutations in its gene being found in patients with autism.

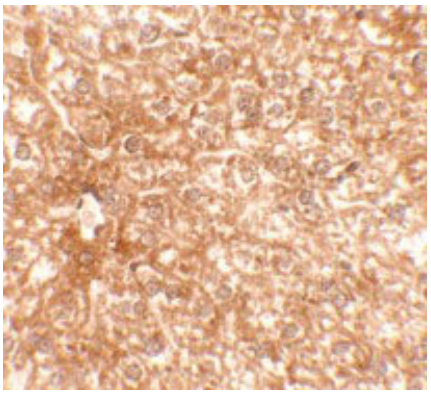
## References

Ueno H, Shibasaki T, Iwanaga T, et al. Characterization of the gene EPAC2: structure, chromosomal localization, tissue expression, and identification of the liver-specific isoform. Genomics 2001; 78:91-8
Grandoch M, Roscioni SS, and Schmidt M. The role of Epac proteins, novel cAMP mediators, in the regulation of immune, lung and neuronal function. Brit. J. Pharm. 2010; 159:265-84
Holz GG, Kang G, Harbeck M, et al. Cell physiology of cAMP sensor Epac. J. Physiol. 2006; 577:5-15

## Images

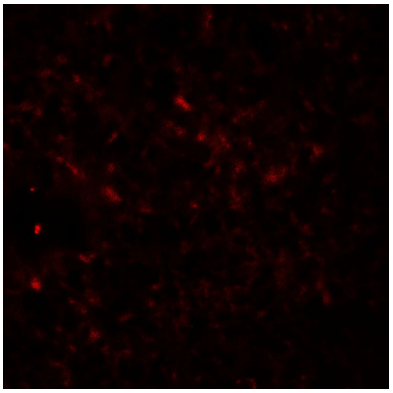



Western blot analysis of EPAC2 in rat liver tissue lysate with EPAC2 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of EPAC3 in mouse liver tissue with EPAC3 antibody at 2.5 µg/mL.

Immunofluorescence of EPAC2 in mouse liver tissue with EPAC2 antibody at 20 µg/mL.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.