

# Epac1 (5D3) Mouse mAb

✓ 100 µl  
(10 western blots)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.  
This product is not intended for use as a therapeutic or in diagnostic procedures.

Entrez-Gene ID #10411  
Swiss-Prot Acc. #O95398

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H, M, R	100 kDa	Mouse IgG2**

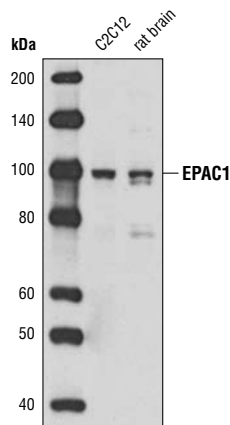
**Background:** Epac1 and Epac2 (exchange proteins activated by cyclic AMP) are guanine nucleotide exchange factors (GEFs) that catalyze the exchange of GDP for GTP, activating Rap1 and Rap2 small GTPases. Rap activation by Epac is cAMP-dependent and mediates cAMP signaling in part through protein kinase A (PKA) (reviewed in 1). Epac signaling plays a significant role in a number of cellular processes including migration and focal adhesion formation (2), exocytosis (3), insulin signaling (4), axon growth and guidance (5) and neurotransmitter release (6).

**Specificity/Sensitivity:** Epac1 (5D3) Mouse mAb detects endogenous levels of total Epac1 protein.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a recombinant fragment of human Epac1.

#### Background References:

- (1) Bos, J.L. (2006) *Trends Biochem Sci* 31, 680–6.
- (2) Lyle, K.S. et al. (2008) *Cell Signal* 20, 1104–16.
- (3) Branham, M.T. et al. (2009) *J Biol Chem*, Epub ahead of print.
- (4) Petersen, R.K. et al. (2008) *Mol Cell Biol* 28, 3804–16.
- (5) Murray, A.J. and Shewan, D.A. (2008) *Mol Cell Neurosci* 38, 578–88.
- (6) Ouyang, M. et al. (2008) *Proc Natl Acad Sci USA* 105, 11993–7.



Western blot analysis of extracts from C2C12 cells and whole rat brain using Epac1 (5D3) Mouse mAb.

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

\*Species cross-reactivity is determined by western blot.

\*\*Anti-mouse secondary antibodies must be used to detect this antibody.

#### Recommended Antibody Dilutions:

Western blotting 1:1000

For application specific protocols please see the web page for this product at [www.cellsignaling.com](http://www.cellsignaling.com).

Please visit [www.cellsignaling.com](http://www.cellsignaling.com) for a complete listing of recommended companion products.

**IMPORTANT:** For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.