Revision 1

Store at -20C

#14143

Phospho-GEF-H1 (Ser886) (E1L6D) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	120	Rabbit IgG	#Q92974	9181

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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.

Specificity/Sensitivity

Phospho-GEF-H1 (Ser886) (E1L6D) Rabbit mAb recognizes endogenous levels of GEF-H1 protein only when phosphorylated at Ser886.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser886 of human GEF-H1 protein.

Background

Rho family small GTPases regulate processes such as cell migration, adhesion, proliferation, and differentiation. They are activated by guanine nucleotide exchange factors (GEFs), which catalyze the exchange of GDP for GTP. GEF-H1 is a Rho GEF that localizes to microtubules and regulates Rho activity in response to microtubule destabilization (1). Loss of interaction between GEF-H1 and microtubules leads to activation of Rho (2). Phosphorylation of GEF-H1 at Ser886 (Ser885 in mouse), a site located in the 14-3-3 binding motif, has been implicated in recruitment of 14-3-3 and GEF-H1 to microtubules (3), and in the regulation of RhoA activity in response to mitotic kinases during cytokinesis (4).
GEF-H1 has also been shown to localize to tight junctions and modulate polarized cell permeability (5,6). GEF-H1 is inactivated by binding to cingulin at epithelial tight junctions, inactivating RhoA and leading to G1/S arrest (6).

Background References

1. Ren, Y. et al. (1998) *J Biol Chem* 273, 34954-60.
2. Krendel, M. et al. (2002) *Nat Cell Biol* 4, 294-301.
3. Zenke, F.T. et al. (2004) *J Biol Chem* 279, 18392-400.
4. Birkenfeld, J. et al. (2007) *Dev Cell* 12, 699-712.
5. Benais-Pont, G. et al. (2003) *J Cell Biol* 160, 729-40.
6. Aijaz, S. et al. (2005) *Dev Cell* 8, 777-86.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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