

**#4145**  
Store at -20C

# GEF-H1 Antibody

**Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source: | UniProt ID: | Entrez-Gene Id: |
|---------------|-------------|--------------|-----------|---------|-------------|-----------------|
| WB            | H M R Mk B  | Endogenous   | 120       | Rabbit  | #Q92974     | 9181            |

|                                  |   |                           |
|----------------------------------|---|---------------------------|
| <b>Product Usage Information</b> | <b>Application</b><br>Western Blotting  | <b>Dilution</b><br>1:1000 |
| <b>Storage</b>                   | Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.  |                           |
| <b>Specificity / Sensitivity</b> | GEF-H1 Antibody recognizes endogenous levels of total GEF-H1 protein. In human and monkey cells, the antibody cross-reacts with an unrelated 70 kDa protein.  |                           |
| <b>Source / Purification</b>     | Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy-terminus of human GEF-H1. Antibodies are purified by protein A and peptide affinity chromatography.  |                           |
| <b>Background</b>                | 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). |                           |
| <b>Background References</b>     | <ol style="list-style-type: none"> <li>1. Ren, Y. et al. (1998) <i>J Biol Chem</i> 273, 34954-60.</li> <li>2. Krendel, M. et al. (2002) <i>Nat Cell Biol</i> 4, 294-301.</li> <li>3. Zenke, F.T. et al. (2004) <i>J Biol Chem</i> 279, 18392-400.</li> <li>4. Birkenfeld, J. et al. (2007) <i>Dev Cell</i> 12, 699-712.</li> <li>5. Benais-Pont, G. et al. (2003) <i>J Cell Biol</i> 160, 729-40.</li> <li>6. Aijaz, S. et al. (2005) <i>Dev Cell</i> 8, 777-86.</li> </ol>   |                           |
| <b>Species Reactivity</b>        | Species reactivity is determined by testing in at least one approved application (e.g., western blot).  |                           |
| <b>Western Blot Buffer</b>       | 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.  |                           |
| <b>Applications Key</b>          | <b>WB:</b> Western Blotting   |                           |
| <b>Cross-Reactivity Key</b>      | <b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected  |                           |
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