

FHOD1

Cat. # FM3521**Host** Mouse Polyclonal**Size** 100 µl**Background:**

Formins include several families of proteins that regulate actin cytoskeletal dynamics via two conserved formin homology domains, FH1 and FH2. The FH1 region contains poly-proline stretches that promote interactions with profilin. The FH2 domain, located C-terminally to the FH1 domain, is highly conserved in formin proteins and possesses actin nucleation and polymerization activities. Through cooperation of FH1 and FH2, formins construct actin-based structures comprising linear, unbranched filaments that are used in stress fibers, actin cables, microspikes, and contractile rings. Several mammalian formins, including mDia1, FRL, and formin homology domain protein 1 (FHOD1) are inhibited through an intramolecular interaction between the C-terminal Dia autoregulatory domain (DAD) and its recognition region at the N-terminus. In FHOD1, this autoinhibitory interaction is disrupted through phosphorylation of Ser-1131, Ser-1137, and Thr-1141 by ROCK. Subsequent FHOD1 activation leads to stress fiber formation. In endothelial cells, thrombin activates this ROCK pathway, leading to FHOD1-mediated stress fiber formation.

References

- Westendorf, J.J. (2001) *J Biol Chem.* 276:46453. (Background)
 Takeya, R. & Sumimoto, H. (2003) *J Cell Sci.* 116:4567. (Background)
 Takeya, R. et al. (2008) *EMBOJ* 27:618. (Background)
 Staus, D.P. et al. (2011) *Arterioscler Thromb Vasc Biol.* 31(2):360.
 (WB: mouse tissues, smooth muscle cells, siRNA)

Immunogen:

FHOD1 recombinant protein that included the full length human FHOD1 sequence. This sequence has 50% homology to human FHOD3, and low homology to other formin family members.

Applications:

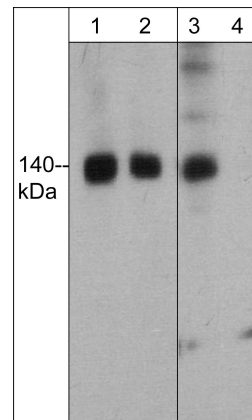
| | |
|-------|--------|
| WB | 1:250 |
| ELISA | 1:1000 |
| IHC | 1:50 |

End user should determine optimal dilution for their particular applications and experiments. Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1hour at room temperature.

Related Products:

- FP3481 FHOD1 (Thr-1141), phospho-specific Rabbit Polyclonal
 DP3491 mDia2 (C-terminal region) Rabbit Polyclonal
 DM3511 DAAM1 (N-terminal region) Mouse Monoclonal
 AK6060 Actin & Tubulin Antibody Sampler Kit
 RM2721 ROCK-I Mouse Monoclonal
 RM2741 ROCK-I (C-terminal), cleavage-specific Mouse Monoclonal

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Western blot of FHOD1 phosphorylation in human K562 cells stimulated with calyculin A (100 nM) for 30 min. (lanes 1 & 3). The blot was then treated with lambda phosphatase (lanes 2 & 4). Blots were probed with mouse polyclonal anti-FHOD1 (lanes 1 & 2) and anti-FHOD1 (Thr-1141), phospho-specific antibody (lanes 3 & 4).

Buffer and Storage:

Mouse polyclonal antibody is supplied in 100 µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

Specificity:

The antibody detects a 140 kDa* protein corresponding to the apparent molecular mass of FHOD1 on SDS-PAGE immunoblots of human K562 and Jurkat, and has weak reactivity to FHOD1 in mouse C2C12.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

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