

# FHOD1 (Thr-1141), phospho-specific

Cat. # FP3481

Host Rabbit 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:

Phospho-FHOD1 (Thr-1141) synthetic peptide (coupled to KLH) corresponding to amino acid residues surrounding Thr-1141 in human FHOD1. This peptide sequence is highly conserved in rat and mouse FHOD1, and is well conserved in FHOD3 (Thr-1399).

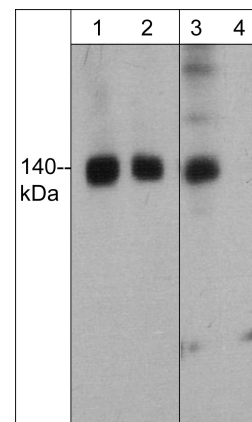
## Applications:

WB 1:1000  
 ELISA 1:2000

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:

- FX3485 phospho-FHOD1 (Thr-1141) Peptide  
 DP3491 mDia2 (C-terminal region) Rabbit Polyclonal  
 FM3521 FHOD1 Mouse Polyclonal  
 AP1671 Actin (Tyr-53), phospho-specific Rabbit Polyclonal  
 RM2721 ROCK-I Mouse Monoclonal  
 RM2741 ROCK-I (C-terminal), cleavage-specific Mouse Monoclonal



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:

Rabbit polyclonal, affinity-purified 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:

This antibody was cross-adsorbed to unphosphorylated FHOD1 (Thr-1141) peptide before affinity purification using phospho-FHOD1 (Thr-1141) peptide (without carrier). The antibody detects a 140 kDa\* protein corresponding to the apparent molecular mass of FHOD1 on SDS-PAGE immunoblots of human K562 and mouse C2C12 cells treated with calyculin A.

\*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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