

Background

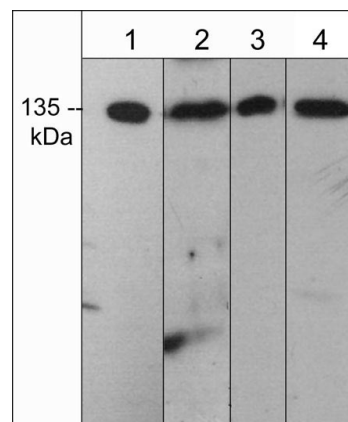
Formins include several families of proteins that regulate actin cytoskeletal dynamics via two conserved formin homology domains, FH1 and FH2. The FH1 region contains poly-proline stretches that promote interactions with profilin. The FH2 domain, located C-terminally to the FH1 domain, is highly conserved 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. A subgroup of the formins is the diaphanous (Dia) family, which includes mDia1 (Diap1), mDia2 (Diap3), and mDia3 (Diap2). The mDia2 protein has been implicated in cell migration and cytokinesis. This Dia protein can nucleate actin polymerization, as well as bind and stabilize microtubules. mDia2 may also have functions in the nucleus, since it is continually shuttled between the cytoplasm and nucleus.

Background References

Alberts, A.S. (2001) *J Biol Chem.* 276:2824.

Bartolini, F. et al. (2008) *J Cell Biol.* 181:523.

Miki, T. et al. (2009) *J Biol Chem.* 284:5753.



Western blot analysis of mDia2 expression in rat PC12 (lane 1), human A431 (lane 2), mouse brain (lane 3), and rabbit spleen fibroblasts (lane 4). The blots were probed with anti-mDia2 (C-terminal region) at 1:500.

Applications

WB	1:1000
ELISA	1:2000

Species Reactivity

Hu, Rt, Ms

Specificity

This antibody was affinity purified using mDia2 (C-terminal region) peptide (without carrier). The antibody detects a 135 kDa* protein corresponding to the apparent molecular mass of mDia2 on SDS-PAGE immunoblots of various cells and tissues, including human A431 and HeLa cells, mouse brain tissue and C2C12 cells, rat PC12 cells, and rabbit spleen fibroblasts.

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 1 hour at room temperature.

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

Immunogen

Uniprot ID: Q9Z207

mDia2 synthetic peptide (coupled to KLH) corresponding to amino acid residues in the C-terminal region of mouse mDia2 (Diap3). This peptide sequence is highly conserved in rat and human mDia2, and has low homology to other formins.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Related Products

CK6040	Cofilin Phospho-Regulation Antibody Sampler Kit
DK6630	mDia Phospho-Regulation Antibody Sampler Kit
DP4471	mDia1 (a.a. 66-77) Rabbit Polyclonal
DX3495	mDia2 (C-terminal region) Blocking Peptide
DP4511	mDia3 (C-terminus) Rabbit Polyclonal

Product References

Egami, Y. et al. (2017). <i>J Cell Sci.</i> 130(24):4168.
WB: mouse macrophage cells
Li X. et al. (2017) <i>Haematologica.</i> 102(6):984.
ICC: fetal liver cells
Spence, EF et al. (2016) <i>J Neurosci.</i> 36(37):9696.
WB: mouse postnatal brain

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