Technical Data Sheet

Purified Mouse Anti-mDia1

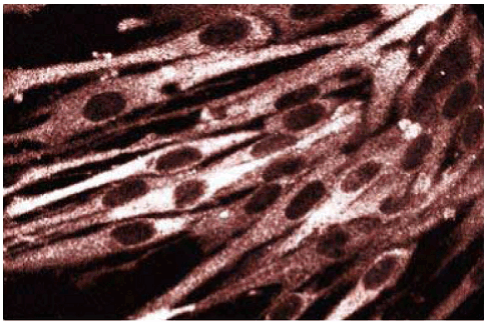
Product Information

Material Number:	**610848**
Alternate Name:	p140mDia; Drf1
Size:	50 µg
Concentration:	250 µg/ml
Clone:	51/mDia1
Immunogen:	Mouse p140mDia aa. 41-153
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Mouse Tested in Development: Rat, Human, Dog
Target MW:	140 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

GTPases like Ras, Rho, cdc42Hs, and Rac modulate a multitude of cellular functions like cytoskeletal architecture, growth, motility, and gene expression. The activity of the GTP-binding proteins is regulated by factors that accelerate GTP-binding (GAPs) and proteins that enhance the rate of GTP hydrolysis. mDia1, also known as p140mDia and Drf1, is the mammalian homologue of *Drosophila's* diaphanous, a protein essential for cytokinesis. The 1255 amino acid mDia1 is widely expressed, with a Rho binding domain at the NH2-terminal region, a central polyproline region, and an FH2 domain. This protein also shares homology with the yeast Bn1p essential for budding and the mouse formin necessary for proper limb development. mDia1 binds to GTP-Rho and to the actin-binding protein profilin-all three proteins are co-localized at the lamellipodia in cultured cells. The overexpression of mDia1 promoted the formation of actin filaments, implicating this protein in cell motility events regulated by Rho. mDia1 was also found consistently mutated in familial deafness.

Western blot analysis of mDia1 on a RSV-3T3 cell lysate. *Lane of 1: 1:500, lane 2: 1:1000, lane 3: 1:2000 dilution of the mouse anti-mDia1 antibody.*



Immunofluorescence staining of FHs cells (Normal human fetal lung fibroblasts; ATCC HTB-157).

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunoprecipitation	Not Recommended
Immunohistochemistry	Not Recommended

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Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Li F, Higgs HN. The mouse Formin mDia1 is a potent actin nucleation factor regulated by autoinhibition. *Curr Biol.* 2003; 13(15):1335-1340.(Biology)

Pennisi E. The architecture of hearing. *Science.* 1997; 278(5341):1223-1224.(Biology)

Watanabe N, Madaule P, Reid T. p140mDia, a mammalian homolog of Drosophila diaphanous, is a target protein for Rho small GTPase and is a ligand for profilin. *EMBO J.* 1997; 16(11):3044-3056.(Biology)