Technical Data Sheet

Purified Mouse Anti-Actin Ab-5

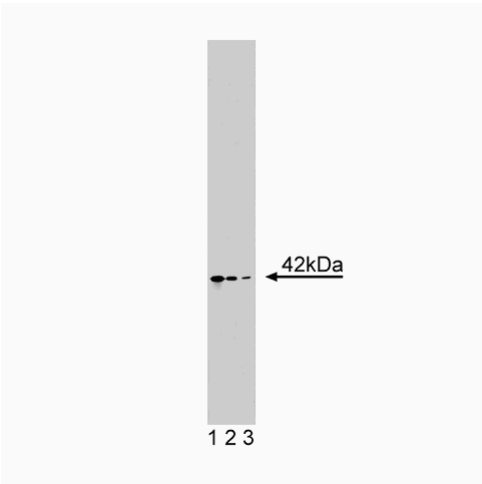
Product Information

Material Number:	**612657**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	C4/actin
Immunogen:	Chicken gizzard muscle Actin
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human Tested in Development: Dog, Rat, Chicken, Mouse
Target MW:	42 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

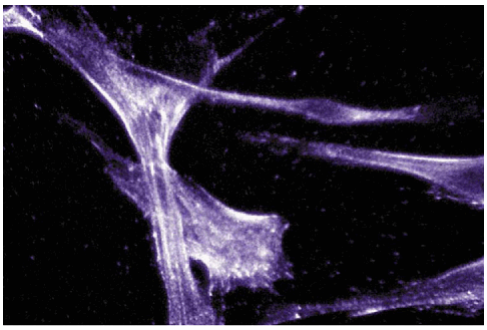
Description

Changes in cellular morphology, adhesion, and motility occur through the reorganization of the actin cytoskeleton. This reorganization of actin filaments results from interactions between actin and actin-binding proteins. Actin is a 42-kDa protein that is known as G-actin in its monomeric form. Polymerization of G-actin monomers leads to the generation of flexible filaments, 5-9 nm in diameter, called F-actin. F-actin may be organized in linear bundles called stress fibers or in two-dimensional networks. The latter are highly concentrated beneath the plasma membrane and form the actin cortex. Regulation of actin cytoskeletal dynamics occurs through actin-binding proteins. These proteins bind to G- and/or F-actin and regulate various aspects of actin cytoskeletal dynamics, such as polymerization and depolymerization of actin, cross-linking of actin filaments into bundles, interaction of actin-based structures with membranes and other cytoskeletal elements, and locomotion of actin-based structures. Thus, the actin cytoskeleton is a complex matrix consisting of G- and F-actin along with the multitude of interactions between these actin forms and a variety of different types of actin-binding proteins.

The C4 monoclonal antibody reacts with all known isoforms of actin in vertebrate muscle and non-muscle cells.



Western blot analysis of Actin Ab-5 on Jurkat cell lysate. *Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of anti-Actin Ab-5.*



Immunofluorescent staining of Hs68 cells with anti-*Actin Ab-5.*

Preparation and Storage

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

BD Biosciences

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

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
611451	Jurkat Cell Lysate	500 µg	(none)
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

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Lesssard JL. Two monoclonal antibodies to actin: one muscle selective and one generally reactive. *Cell Motil Cytoskeleton.* 1988; 10(3):349-362.(Biology)

Mitchison TJ, Cramer LP. Actin-based cell motility and cell locomotion. *Cell.* 1996; 84(3):371-379.(Biology)

Pantaloni D, Le Clainche C, Cartier M-F. Mechanism of Actin-Based Motility. *Science.* 2001; 292:1502-1506.(Biology)