Technical Data Sheet

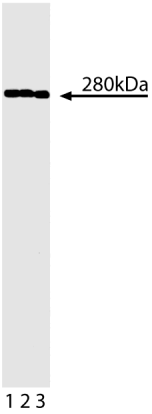
Purified Mouse Anti- β-Spectrin II

Product Information

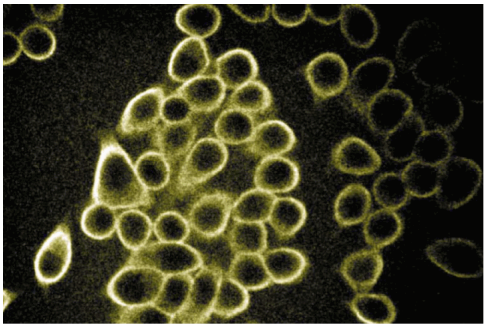
Material Number:	**612563**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	42/B-Spectrin II
Immunogen:	Human β-Spectrin II aa. 2101-2189
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat, Dog
Target MW:	280 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Spectrins are central components of the cytoskeleton that form a scaffold below the plasma membrane. Spectrins contain two subunits, α and ß, which intertwine to form heterodimers that can self associate into elongated tetramers. α-spectin I and ß-spectrin I form heterodimers in red blood cells, while nonerythroid mammalian cells contain heterodimers of α-spectin I and II with ß-spectrin I to V. The structure of spectrins includes a succession of triple-helical repeats alongwith various domains, such as SH3 domain, EF hands, PH domains, and binding domains for ankyrin, actin, band 4.1, and calmodulin. α-spectrin II is a widely expressed non-erythroid α-spectrin that contains an SH3 domain, a calmodulin binding site, and two cleavage sites for proteases, such as calpains and caspase-3. ß-spectrin II is a widely expressed non-erythroid ß-spectrin that contains a C-terminal region that interacts with α-spectrins and a PH domain. α-spectrin II and ß-spectrin II, like many other spectrins, can form heterodimers that can self associate into tetramers, as well as interact with Band 4.1, F-actin, and other proteins near the plasma membrane. This scaffold of cytoskeletal and plasma membrane proteins is critical for the maintenance of cell structure.



Western blot analysis of β-Spectrin II on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152). *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the mouse anti- β-Spectrin II antibody.*



Immunofluorescent staining *of Hela cells (Human cervical epitheloid carcinoma; ATCC CCL-2.2).*

Preparation and Storage

Store undiluted at -20° C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

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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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Hu RJ, Watanabe M, Bennett V. Characterization of human brain cDNA encoding the general isoform of beta-spectrin. *J Biol Chem.* 1992; 267(26):18715-18722.(Biology)

Moon RT, McMahon AP. Generation of diversity in nonerythroid spectrins. Multiple polypeptides are predicted by sequence analysis of cDNAs encompassing the coding region of human nonerythroid alpha-spectrin. *J Biol Chem.* 1990; 265(8):4427-4433.(Biology)

Nicolas G, Fournier CM, Galand C, et al. Tyrosine phosphorylation regulates alpha II spectrin cleavage by calpain. *Mol Cell Biol.* 2002; 22(10):3527-3536.(Biology)