

## Technical Data Sheet

**Purified Mouse Anti-β-Spectrin II****Product Information**

<b>Material Number:</b>	<b>612562</b>
<b>Size:</b>	50 µg
<b>Concentration:</b>	250 µg/ml
<b>Clone:</b>	42/B-Spectrin II
<b>Immunogen:</b>	Human β-Spectrin II aa. 2101-2189
<b>Isotype:</b>	Mouse IgG1
<b>Reactivity:</b>	QC Testing: Human Tested in Development: Dog, Mouse, Rat
<b>Target MW:</b>	280 kDa
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

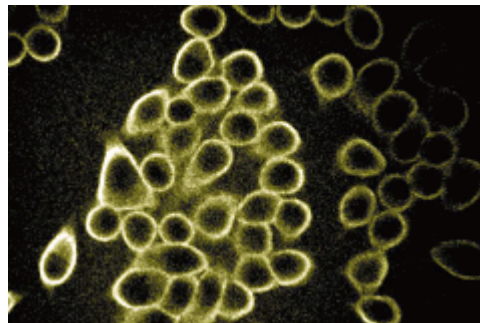
**Description**

Spectrins are central components of the cytoskeleton that form a scaffold below the plasma membrane. Spectrins contain two subunits,  $\alpha$  and  $\beta$ , which intertwine to form heterodimers that can self associate into elongated tetramers.  $\alpha$ -spectrin I and  $\beta$ -spectrin I form heterodimers in red blood cells, while nonerythroid mammalian cells contain heterodimers of  $\alpha$ -spectrin I and II with  $\beta$ -spectrin I to V. The structure of spectrins includes a succession of triple-helical repeats along with various domains, such as SH3 domain, EF hands, PH domains, and binding domains for ankyrin, actin, band 4.1, and calmodulin.  $\alpha$ -spectrin II is a widely expressed non-erythroid  $\alpha$ -spectrin that contains an SH3 domain, a calmodulin binding site, and two cleavage sites for proteases, such as calpains and caspase-3.  $\beta$ -spectrin II is a widely expressed non-erythroid  $\beta$ -spectrin that contains a C-terminal region that interacts with  $\alpha$ -spectrins and a PH domain.  $\alpha$ -spectrin II and  $\beta$ -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.

This antibody is routinely tested by the Western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only.



**Western blot analysis of β-Spectrin II on Jurkat lysate.**  
Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of β-Spectrin II.



**Immunofluorescent staining of HeLa cells grown on microscope slides with β-Spectrin II monoclonal antibody.**

**Preparation and Storage**

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

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## Application Notes

### Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

### Recommended Assay Procedure:

For western blot analysis use at 1:1000. Detailed protocol is available at:

[http://www.bdbiosciences.com/pharmingen/protocols/Western\\_Blotting.shtml](http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml).

### Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)

### 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](http://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

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)