Technical Data Sheet

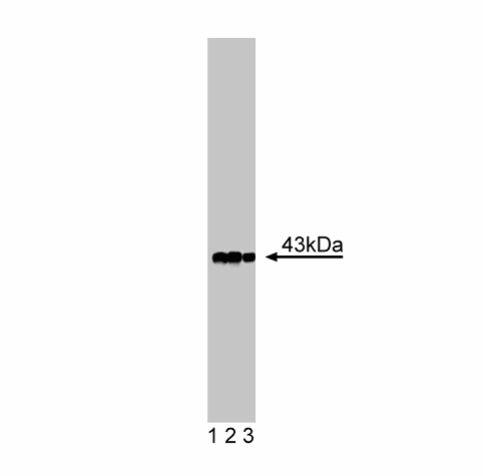
Purified Mouse Anti-Human β-Dystroglycan

Product Information

Material Number:	**612090**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	56/β-Dystroglycan
Immunogen:	Human β-Dystroglycan aa. 655-767
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Human
Target MW:	43-50 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Formation of the neuromuscular junction (NMJ) requires interaction between specific extracellular matrix proteins, intracellular cytoskeletal elements, and clustering of specific neurotransmitter receptors. Dystroglycans, α-dystroglycan and β-dystroglycan, are two members of the dystrophin-associated complex, an essential element of NMJs. These proteins are encoded by the same gene, but posttranslationally cleaved to produce a 156 kDa extracellular peripheral membrane protein, α-dystroglycan, and a 43 kDa transmembrane protein, β-dystroglycan. Dystroglycans are expressed highest in heart and muscle, but are also found in non-muscle tissues. α-dystroglycan may interact with agrin to facilitate AChR clustering at NMJs, and has been implicated as a laminin receptor. β-dystroglycan recruits dystrophin to the sarcolemma, and interactions between β-dystroglycan and caveolin-3 may regulate this recruitment. Mice deficient in dystroglycans have severly disorganized NMJs, and have reductions in the concentration of laminin, perlecan, and AChE at the synaptic basement membrane of NMJs. Thus, dystroglycans may have important extracellular and intracellular roles during NMJ assembly.



Western blot analysis of β-Dystroglycan on a HepG2 cell lysate (Human hepatocellular carcinoma; ATCC HB-8065). *Lane 1: 1:500, lane 2: 1:1000, lane 3: 1:2000 dilution of the mouse anti-human β-Dystroglycan antibody.*

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	Not Recommended

Recommended Assay Procedure:

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

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611555	HepG2 Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(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 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

Ibraghimov-Beskrovnaya O, Milatovich A, Ozcelik T. Human dystroglycan: skeletal muscle cDNA, genomic structure, origin of tissue specific isoforms and chromosomal localization. *Hum Mol Genet.* 1993; 2(10):1651-1657.(Biology)

Jacobson C, Côté PD, Rossi SG, Rotundo RL, Carbonetto S. The dystroglycan complex is necessary for stabilization of acetylcholine receptor clusters at neuromuscular junctions and formation of the synaptic basement membrane. *J Cell Biol.* 2001; 152(3):435-450.(Biology)

Sotgia F, Lee JK, Das K, et al. Caveolin-3 directly interacts with the C-terminal tail of beta -dystroglycan. Identification of a central WW-like domain within caveolin family members. *J Biol Chem.* 2000; 275(48):38048-38058.(Biology)