

## HRP anti- $\beta$ -Dystroglycan Antibody

<b>Catalog# / Size</b>	849403 / 25 $\mu$ g 849404 / 100 $\mu$ g
<b>Clone</b>	4F7
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Beta-dystroglycan, Beta-DG, DAG1
<b>Isotype</b>	Mouse IgG2b, $\kappa$
<b>Description</b>	Dystroglycan is a central component of dystrophin-glycoprotein complex that is encoded by the DAG1 gene. Dystroglycan links the cytoskeletal structure to the extracellular matrix. Dystroglycan is proteolytically cleaved to 2 functional peptides, $\alpha$ - and $\beta$ -dystroglycan. $\beta$ -dystroglycan is a transmembrane protein, which acts as a cell adhesion receptor in human tissues. The interactions between $\beta$ -dystroglycan and dystrophin and utrophin scaffolds axin to the cytoskeleton. $\beta$ -dystroglycan has also been reported to play a role in cell adhesion-mediated signaling and is implicated in cell polarity.

### Product Details

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<b>Verified Reactivity</b>	Human, Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	KLH-conjugated peptide corresponding to the last 15 amino acids (KNMTPYRSPPPYVPP) of L-Dystroglycan.
<b>Formulation</b>	This antibody is provided in 50% glycerol in aqueous buffered solutions with preservatives.
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with HRP under optimal conditions.
<b>Concentration</b>	0.5 mg/ml
<b>Storage &amp; Handling</b>	Upon receipt, the antibody solution should be stored undiluted at -20°C, and protected from prolonged exposure to light.
<b>Application</b>	<a href="#">WB - Quality tested</a> <a href="#">IHC-P - Verified</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">Western blotting</a> . For Western blotting, the suggested use of this reagent is 0.5 - 5.0 $\mu$ g per ml. For immunohistochemistry on formalin-fixed paraffin-embedded tissue, a concentration range of 1.0 - 5.0 $\mu$ g/ml is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application References</b>	1. Sumita K, <i>et al.</i> 2007. <i>J. Neurochem.</i> 100(1):154. ( <b>IP, WB</b> )
<b>(PubMed link indicates BioLegend citation)</b>	
<b>RRID</b>	AB_2734626 (BioLegend Cat. No. 849403) AB_2734627 (BioLegend Cat. No. 849404)

### Antigen Details

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<b>Structure</b>	Dystroglycan is an 895 amino acid protein with a molecular mass of ~97 kD. $\beta$ -dystroglycan, a cleavage product of dystroglycan, is a 242 amino acid protein with a molecular mass of ~43 kD.
<b>Distribution</b>	Tissue distribution: Primarily expressed in muscle tissue. Also present in other tissue including CNS.

Cellular distribution: Nucleus, plasma membrane, and cytoskeleton.

<b>Function</b>	$\beta$ -dystroglycan is involved in a number of processes including laminin and basement membrane assembly, sarcolemmal stability, cell survival, peripheral nerve myelination, nodal structure, cell migration, and epithelial polarization.
<b>Interaction</b>	Interacts with dystrophin, utrophin and other cytoskeletal components such as axin.
<b>Ligand/Receptor</b>	Receptor for dystrophin and utrophin.
<b>Biology Area</b>	Cell Biology, Neuroscience, Neuroscience Cell Markers
<b>Molecular Family</b>	Adhesion Molecules
<b>Antigen References</b>	1. Murphy S and Ohlendieck K. 2015. <i>Comput. Struct. Biotechnol. J.</i> Nov 26;14:20-7. 2. Moore CJ and Winder SJ. 2012. <i>Neuromuscul. Disord.</i> Nov: 22(11): 959.
<b>Gene ID</b>	<a href="#">1605</a>

## Related Protocols

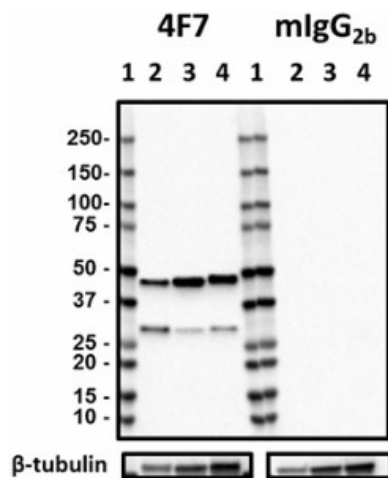
[Western Blotting Protocol](#)

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

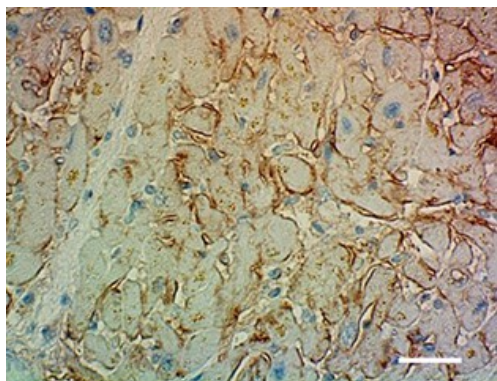
## Other Formats

Purified anti- $\beta$ -Dystroglycan, HRP anti- $\beta$ -Dystroglycan

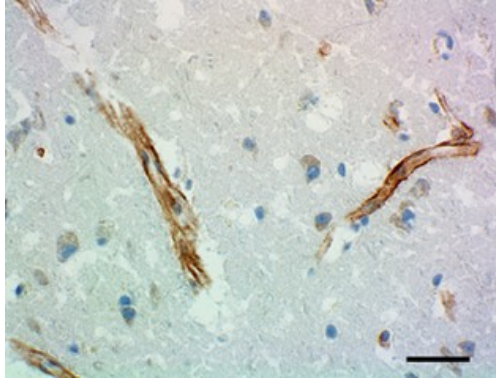
## Product Data



Western blot of HRP anti- $\beta$ -Dystroglycan antibody (clone 4F7). Lane 1: Molecular weight marker; Lane 2: 20  $\mu$ g of human brain lysate; Lane 3: 20  $\mu$ g of mouse brain lysate; Lane 4: 20  $\mu$ g of rat brain lysate. The blots were incubated with 0.5  $\mu$ g/mL of clone 4F7 or mouse IgG overnight at 4°C. HRP anti- $\beta$ -tubulin antibody (clone AA10, Cat. No. 657409) was used as a loading control. Enhanced chemiluminescence (Cat. No. 426302) was used as the detection system. The antibody also detects a smaller band, slightly higher than the 25 kD molecular weight marker, which corresponds to a cleavage product of  $\beta$ -dystroglycan as previously reported.



IHC staining of HRP anti- $\beta$ -Dystroglycan antibody (clone 4F7) on formalin-fixed paraffin-embedded human heart tissue. Following antigen retrieval using Sodium Citrate H.I.E.R (Cat. No. 928602), the tissue was incubated with 5  $\mu$ g/ml of the primary antibody overnight at 4°C. DAB was used for detection followed by hematoxylin counterstaining, according to the protocol provided. The image was captured with a 40X objective. Scale bar: 50  $\mu$ m



IHC staining of HRP anti- $\beta$ -Dystroglycan antibody (clone 4F7) on formalin-fixed paraffin-embedded human brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R (Cat. No. 928602), the tissue was incubated with 5  $\mu$ g/ml of the primary antibody overnight at 4°C. DAB was used for detection followed by hematoxylin counterstaining, according to the protocol provided. The image was captured with a 40X objective. Scale bar: 50  $\mu$ m

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BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 [www.biolegend.com](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587