

# SPTBN1 Monoclonal Antibody (4C3)

## Product Details

Size	100 µL
Species Reactivity	Human, Mouse, Rat
Published Species	Rat, Mouse, Human
Host/Isotype	Mouse / IgG1
Class	Monoclonal
Type	Antibody
Clone	4C3
Conjugate	Unconjugated
Immunogen	Purified human erythrocyte beta-1 spectrin.
Form	Liquid
Concentration	Conc. Not Determined
Storage buffer	PBS, ascites
Contains	0.05% sodium azide
Storage conditions	-20° C, Avoid Freeze/Thaw Cycles
RRID	AB_2194360

Applications	Tested Dilution	Publications
Western Blot (WB)	1:100	2 Publications
Immunohistochemistry (IHC)	-	2 Publications
Immunohistochemistry (Paraffin) (IHC (P))	1:20-1:200	-
Immunocytochemistry (ICC/IF)	1:10-1:200	1 Publication
Flow Cytometry (Flow)	Assay-dependent	-

## Product Specific Information

MA3-062 detects spectrin from mouse, rat and human erythrocytes, brain and muscle cells. This antibody has been shown to specifically detect the two known alternatively spliced forms of spectrin, beta-1 epsilon-1, present in erythrocytes, and beta-1 epsilon-2, present in nerve and striated muscle cells. It does not cross-react with alpha-2 spectrin or either of the fodrin subunits.

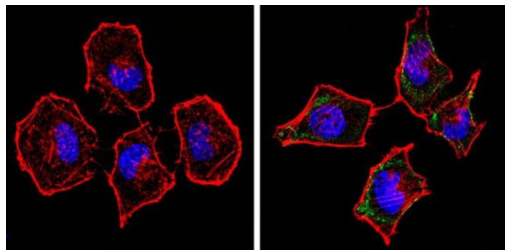
MA3-062 has been successfully used in Western blot, immunohistochemistry (paraffin) and immunofluorescence procedures. By Western blot, this antibody detects a ~246 kDa protein representing beta-1 spectrin in rat skeletal muscle homogenate. Immunofluorescence staining of beta-1 spectrin in rat skeletal muscle fibers with MA3-062 results in intense staining of the sarcolemma.

In immunofluorescence, antigen integrity can be compromised if aldehyde fixatives are left in contact with the protein for extended periods of time. If paraformaldehyde is used as a fixative, exposure should be limited to 5 minutes or less of no more than a 2% solution.

The MA3-062 antigen is purified human erythrocyte beta-1 spectrin.

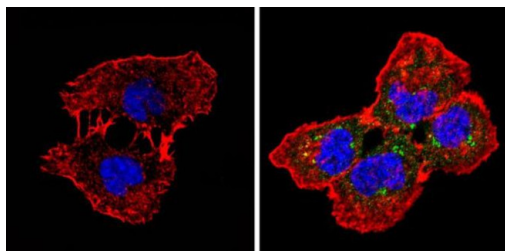
## Product Images For SPTBN1 Monoclonal Antibody (4C3)

### SPTBN1 Antibody (MA3-062) in ICC/IF



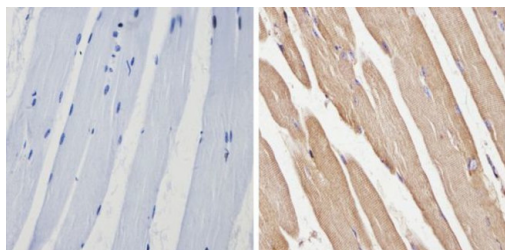
Immunofluorescent analysis of Spectrin beta-1 (green) showing staining in the cytoplasm of HeLa cells (right) compared to a negative control without primary antibody (left). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with a Spectrin beta-1 monoclonal antibody (Product # MA3-062) in 3% BSA-PBS at a dilution of 1:100 and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. F-actin (red) was stained with a fluorescent red phalloidin and nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.

### SPTBN1 Antibody (MA3-062) in ICC/IF



Immunofluorescent analysis of Spectrin beta-1 (green) showing staining in the cytoplasm of A431 cells (right) compared to a negative control without primary antibody (left). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with a Spectrin beta-1 monoclonal antibody (Product # MA3-062) in 3% BSA-PBS at a dilution of 1:20 and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. F-actin (red) was stained with a fluorescent red phalloidin and nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.

### SPTBN1 Antibody (MA3-062) in IHC (P)



Immunohistochemistry analysis of Spectrin beta-1 showing positive staining in the cytoplasm and membrane of paraffin-treated Mouse skeletal muscle (right) compared with a negative control in the absence of primary antibody (left). To expose target proteins, antigen retrieval method was performed using 10mM sodium citrate (pH 6.0) microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H<sub>2</sub>O<sub>2</sub>-methanol for 15 min at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with a Spectrin beta-1 monoclonal antibody (Product # MA3-062) diluted by 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

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Western Blot (2)

<p>Cancer research</p> <p><b>MEF2c-Dependent Downregulation of Myocilin Mediates Cancer-Induced Muscle Wasting and Associates with Cachexia in Patients with Cancer.</b></p> <p>"MA3-062 was used in Western Blotting to investigate the role of Myocilin (Myoc), a skeletal muscle hypertrophy-promoting protein that we showed is downregulated in multiple mouse models of cancer cachexia."</p> <p>Authors: Judge SM,Deyhle MR,Neyroud D,Nosacka RL,D'Lugos AC,Cameron ME,Vohra RS,Smuder AJ,Roberts BM,Callaway CS,Underwood PW,Chrzanowski SM,Batra A,Murphy ME,Heaven JD,Walter GA,Trevino JG,Judge AR</p>	<p>Year 2020</p> <p>Species Mouse</p>
<p>The Journal of biological chemistry</p> <p><b>Defining new mechanistic roles for II spectrin in cardiac function.</b></p> <p>"MA3-062 was used in Western Blotting to study the mechanistic role of all spectrin in the vertebrate heart."</p> <p>Authors: Lubbers ER,Murphy NP,Musa H,Huang CY,Gupta R,Price MV,Han M,Daoud E,Gratz D,El Refaey M,Xu X,Hoeflinger NK,Friel EL,Lancione P,Wallace MJ,Cavus O,Simmons SL,Williams JL,Skaf M,Koenig SN,Janssen PML,Rasband MN,Hund TJ,Mohler PJ</p>	<p>Year 2019</p> <p>Species Mouse</p>

Immunohistochemistry (2)

<p>Cellular oncology (Dordrecht)</p> <p><b>Co-expression analysis of pancreatic cancer proteome reveals biology and prognostic biomarkers.</b></p> <p>"Published figure using SPTBN1 monoclonal antibody (Product # MA3-062) in Immunohistochemistry"</p> <p>Authors: Mantini G,Vallés AM,Le Large TYS,Capula M,Funel N,Pham TV,Piersma SR,Kazemier G,Bijlsma MF,Giovannetti E,Jimenez CR</p>	<p>Year 2020</p> <p>Species Human</p> <p>Dilution 1:500</p>
<p>Cell motility and the cytoskeleton</p> <p><b>Two populations of beta-spectrin in rat skeletal muscle.</b></p> <p>"MA3-062 was used in immunohistochemistry to evaluate the interaction between alpha fodrin and muscle beta spectrin"</p> <p>Authors: Porter GA,Scher MG,Resneck WG,Porter NC,Fowler VM,Bloch RJ</p>	<p>Year 1997</p> <p>Species Rat</p>

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ICC/IF (1)

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