

# $\alpha$ -Dystrobrevin (B-2): sc-376689

## BACKGROUND

Dystrobrevins are protein components of the dystrophin complex, whose disruption leads to Duchenne muscular dystrophy and related diseases.  $\alpha$ -Dystrobrevin is a dystrophin-related and -associated protein that is involved in synapse maturation and is required for normal muscle function.  $\alpha$ -Dystrobrevin is a component of the dystrophin glycoprotein complex. It is localized to the cytoplasmic side of the sarcolemma and is highly concentrated at the neuromuscular junctions in skeletal muscle. The insertion of 57 amino acids by alternative splicing accounts for the increase in molecular mass of  $\alpha$ -Dystrobrevin 1 in skeletal and cardiac muscle compared with brain and lung.  $\alpha$ -Dystrobrevin containing complexes are found in endothelial and smooth muscle cells, while  $\beta$ -Dystrobrevin containing complexes are present at the basal region of renal epithelial cells. Additionally,  $\beta$ -Dystrobrevin is found in neurons and is highly enriched in postsynaptic densities. Alternative splicing of  $\alpha$ -Dystrobrevin produces  $\gamma$ -Dystrobrevin (isoform 5),  $\delta$ -Dystrobrevin (isoform 7),  $\epsilon$ -Dystrobrevin (isoform 6) and  $\zeta$ -Dystrobrevin (isoform 8). Additional isoforms may also exist.

## REFERENCES

- Blake, D.J., et al. 1998.  $\beta$ -Dystrobrevin, a member of the dystrophin-related protein family. *Proc. Natl. Acad. Sci. USA* 95: 241-246.
- Blake, D.J., et al. 1999. Different dystrophin-like complexes are expressed in neurons and glia. *J. Cell Biol.* 147: 645-658.
- Loh, N.Y., et al. 2000. Assembly of multiple Dystrobrevin-containing complexes in the kidney. *J. Cell Sci.* 113: 2715-2724.
- Enigk, R.E., et al. 2001. Cellular and molecular properties of  $\alpha$ -Dystrobrevin in skeletal muscle. *Front. Biosci.* 6: D53-D64.
- Gieseler, K., et al. 2001. Molecular, genetic and physiological characterization of Dystrobrevin-like (*dyb-1*) mutants of *Caenorhabditis elegans*. *J. Mol. Biol.* 307: 107-117.
- Newey, S.E., et al. 2001. A novel mechanism for modulating synaptic gene expression: differential localization of  $\alpha$ -Dystrobrevin transcripts in skeletal muscle. *Mol. Cell. Neurosci.* 17: 127-140.

## CHROMOSOMAL LOCATION

Genetic locus: DTNA (human) mapping to 18q12.1; Dtna (mouse) mapping to 18 A2.

## SOURCE

$\alpha$ -Dystrobrevin (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 343-371 at the C-terminus of  $\alpha$ -Dystrobrevin of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376689 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

$\alpha$ -Dystrobrevin (B-2) is recommended for detection of all isoforms of  $\alpha$ -Dystrobrevin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for  $\alpha$ -Dystrobrevin siRNA (h): sc-43321,  $\alpha$ -Dystrobrevin siRNA (m): sc-43322,  $\alpha$ -Dystrobrevin shRNA Plasmid (h): sc-43321-SH,  $\alpha$ -Dystrobrevin shRNA Plasmid (m): sc-43322-SH,  $\alpha$ -Dystrobrevin shRNA (h) Lentiviral Particles: sc-43321-V and  $\alpha$ -Dystrobrevin shRNA (m) Lentiviral Particles: sc-43322-V.

Molecular Weight of  $\alpha$ -Dystrobrevin non-muscle type: 78 kDa.

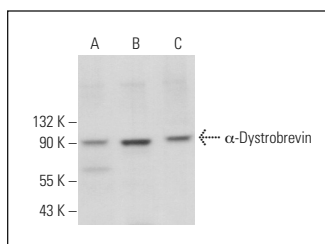
Molecular Weight of  $\alpha$ -Dystrobrevin muscle type: 94 kDa.

Positive Controls:  $\alpha$ -Dystrobrevin (h): 293T Lysate: sc-177157, C2C12 whole cell lysate: sc-364188 or NIH/3T3 whole cell lysate: sc-2210.

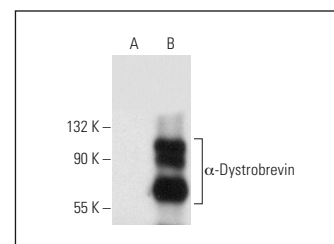
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



$\alpha$ -Dystrobrevin (B-2): sc-376689. Western blot analysis of  $\alpha$ -Dystrobrevin expression in C2C12 (A), NIH/3T3 (B) and SK-N-SH (C) whole cell lysates.



$\alpha$ -Dystrobrevin (B-2): sc-376689. Western blot analysis of  $\alpha$ -Dystrobrevin expression in non-transfected: sc-117752 (A) and human  $\alpha$ -Dystrobrevin transfected: sc-177157 (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.