

# $\alpha$ -Dystrobrevin (23): sc-136129

## 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.
- Kulyte, A., et al. 2002. Characterization of human  $\alpha$ -Dystrobrevin isoforms in HL-60 human promyelocytic leukemia cells undergoing granulocytic differentiation. *Mol. Biol. Cell* 13: 4195-4205.

## CHROMOSOMAL LOCATION

Genetic locus: *Dtna* (mouse) mapping to 18 A2.

## SOURCE

$\alpha$ -Dystrobrevin (23) is a mouse monoclonal antibody raised against amino acids 249-403 of  $\alpha$ -Dystrobrevin of mouse origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol, and 0.04% stabilizer protein.

## APPLICATIONS

$\alpha$ -Dystrobrevin (23) is recommended for detection of all isoforms of  $\alpha$ -Dystrobrevin of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

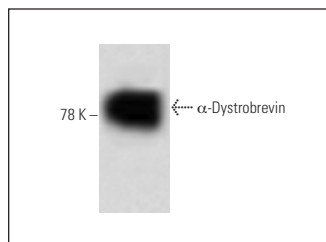
Suitable for use as control antibody for  $\alpha$ -Dystrobrevin siRNA (m): sc-43322,  $\alpha$ -Dystrobrevin shRNA Plasmid (m): sc-43322-SH and  $\alpha$ -Dystrobrevin shRNA (m) Lentiviral Particles: sc-43322-V.

Molecular Weight of non-muscle  $\alpha$ -Dystrobrevin isoform 1: 78 kDa.

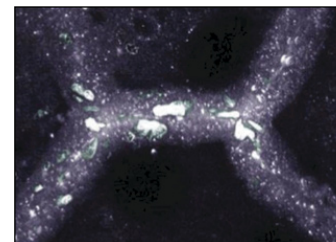
Molecular Weight of non-muscle  $\alpha$ -Dystrobrevin isoform 2: 59 kDa.

Positive Controls: C2C12 whole cell lysate: sc-364188, rat brain extract: sc-2392 or rat skeletal muscle extract: sc-364810.

## DATA



$\alpha$ -Dystrobrevin (23): sc-136129. Western blot analysis of  $\alpha$ -Dystrobrevin expression in rat brain tissue extract.



$\alpha$ -Dystrobrevin (23): sc-136129. Immunofluorescence staining of rabbit cerebrum cells showing cytoplasmic localization.

## 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. Not for resale.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.