

Dystrobrevin (K-18): sc-13818

BACKGROUND

Dystrobrevins are protein components of the dystrophin complex, whose disruption leads to Duchenne muscular dystrophy and related diseases. α -Dystrobrevin is a dystrophin-related and -associated protein that is involved in synapse maturation and is required for normal muscle function. α -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 α -Dystrobrevin 1 in skeletal and cardiac muscle compared with brain and lung. α -Dystrobrevin containing complexes are found in endothelial and smooth muscle cells, while β -Dystrobrevin containing complexes are present at the basal region of renal epithelial cells. Additionally, β -Dystrobrevin is found in neurons and is highly enriched in postsynaptic densities. Alternative splicing of α -Dystrobrevin produces γ -Dystrobrevin (isoform 5), δ -Dystrobrevin (isoform 7), ϵ -Dystrobrevin (isoform 6) and ζ -Dystrobrevin (isoform 8). Additional isoforms may also exist.

REFERENCES

- 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 α -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 α -Dystrobrevin transcripts in skeletal muscle. *Mol. Cell Neurosci.* 17: 127-140.

CHROMOSOMAL LOCATION

Genetic locus: DTNA (human) mapping to 18q12.1, DTNB (human) mapping to 2p23.3; Dtna (mouse) mapping to 18 A2, Dtnb (mouse) mapping to 12 A1.1.

SOURCE

Dystrobrevin (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of α -Dystrobrevin of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13818 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Dystrobrevin (K-18) is recommended for detection of all isoforms of α -Dystrobrevin and, to a lesser extent, β -Dystrobrevin of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

Dystrobrevin (K-18) is also recommended for detection of all isoforms of α -Dystrobrevin and, to a lesser extent, β -Dystrobrevin in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of α -Dystrobrevin non-muscle: 78 kDa.

Molecular Weight of α -Dystrobrevin muscle: 94 kDa.

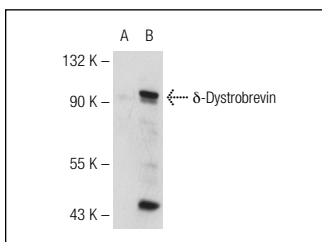
Molecular Weight of β -Dystrobrevin: 61 kDa.

Positive Controls: δ -Dystrobrevin (h3): 293 Lysate: sc-177159 or SK-N-SH cell lysate: sc-2410.

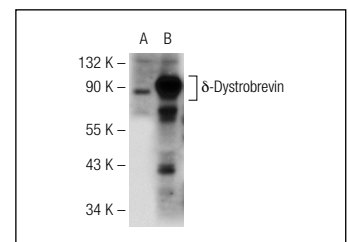
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Dystrobrevin (K-18): sc-13818. Western blot analysis of δ -Dystrobrevin expression in non-transfected: sc-110760 (A) and human δ -Dystrobrevin transfected: sc-177159 (B) 293 whole cell lysates.



Dystrobrevin (K-18): sc-13818. Western blot analysis of δ -Dystrobrevin expression in non-transfected: sc-117752 (A) and human δ -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.