SANTA CRUZ BIOTECHNOLOGY, INC.

α-Dystrobrevin (D-9): sc-271630

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. Blake, D.J., et al. 1998. β-Dystrobrevin, a member of the dystrophin-related protein family. Proc. Natl. Acad. Sci. USA 95: 241-246.
2. Blake, D.J., et al. 1999. Different dystrophin-like complexes are expressed in neurons and glia. J. Cell Biol. 147: 645-658.
3. Loh, N.Y., et al. 2000. Assembly of multiple Dystrobrevin-containing complexes in the kidney. J. Cell Sci. 113: 2715-2724.
4. Enigk, R.E. et al. 2001. Cellular and molecular properties of α-Dystrobrevin in skeletal muscle. Front. Biosci. 6: D53-D64.

CHROMOSOMAL LOCATION

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

SOURCE

α-Dystrobrevin (D-9) is a mouse monoclonal antibody raised against amino acids 301-600 (deletion 366-422) mapping within an internal region of α-Dystrobrevin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α-Dystrobrevin (D-9) is available conjugated to agarose (sc-271630 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271630 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271630 PE), fluorescein (sc-271630 FITC), Alexa Fluor® 488 (sc-271630 AF488), Alexa Fluor® 546 (sc-271630 AF546), Alexa Fluor® 594 (sc-271630 AF594) or Alexa Fluor® 647 (sc-271630 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271630 AF680) or Alexa Fluor® 790 (sc-271630 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

α-Dystrobrevin (D-9) is recommended for detection of all isoforms of α-Dystrobrevin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

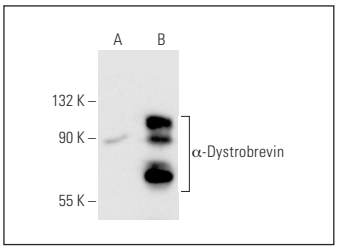
Suitable for use as control antibody for α-Dystrobrevin siRNA (h): sc-43321, α-Dystrobrevin siRNA (m): sc-43322, α-Dystrobrevin shRNA Plasmid (h): sc-43321-SH, α-Dystrobrevin shRNA Plasmid (m): sc-43322-SH, α-Dystrobrevin shRNA (h) Lentiviral Particles: sc-43321-V and α-Dystrobrevin shRNA (m) Lentiviral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

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

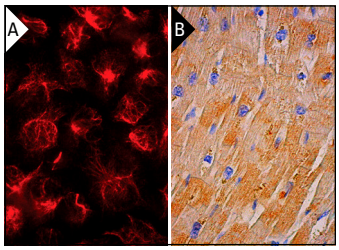
Molecular Weight of α-Dystrobrevin muscle α type: 94 kDa.

Positive Controls: α-Dystrobrevin (h): 293T Lysate: sc-177157, C2C12 whole cell lysate: sc-364188 or SK-N-SH cell lysate: sc-2410.

DATA



α-Dystrobrevin (D-9): sc-271630. Western blot analysis of α-Dystrobrevin expression in non-transfected: sc-117752 (**A**) and human α-Dystrobrevin transfected: sc-177157 (**B**) 293T whole cell lysates.



α-Dystrobrevin (D-9): sc-271630. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Martínez-Vieyra, I., et al. 2018. Role of α-Dystrobrevin in the differentiation process of HL-60 cells. Exp. Cell Res. 370: 591-600.
2. Shi, N., et al. 2022. Restoration of dystrophin expression in mice by suppressing a nonsense mutation through the incorporation of unnatural amino acids. Nat. Biomed. Eng. 6: 195-206.
3. Capitanio, D., et al. 2022. Molecular fingerprint of BMD patients lacking a portion in the rod domain of dystrophin. Int. J. Mol. Sci. 23: 2624.

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.