SANTA CRUZ BIOTECHNOLOGY, INC.

utrophin (MANCHO7): sc-81557

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Dystrophin and utrophin are related structural, Actin-binding proteins that are involved in anchoring the cytoskeleton to the plasma membrane. Dystrophin is the protein product of the Duchenne/Becker muscular dystrophy gene. Dystrophin expression is found in muscle and brain tissues, where it is localized to the inner surface of the plasma membrane. It has been speculated that alternative splicing of the carboxy terminus allows dystrophin to interact with a variety of proteins. Research has shown that the loss of dystrophin-associated proteins in Duchenne afflicted muscle is due to the absence of dystrophin rather than to muscle degradation and that the lack of dystrophin results in the loss of linkage between the cytoskeleton and the extracellular matrix. Evidence suggests that the upregulation of utrophin can reduce the dystrophic pathology.

REFERENCES

1. Monaco, A.P. 1989. Dystrophin, the protein product of the Duchenne/Becker muscular dystrophy gene. Trends Biochem. Sci. 14: 412-415.
2. Voit, T., et al. 1991. Dystrophin as a diagnostic marker in Duchenne/Becker muscular dystrophy. Correlation of immunofluorescence and Western blot. Neuropediatrics 22: 152-162.

CHROMOSOMAL LOCATION

Genetic locus: UTRN (human) mapping to 6q24.2; Utrn (mouse) mapping to 10 A1.

SOURCE

utrophin (MANCHO7) is a mouse monoclonal antibody raised against a fusion protien containing amino acids 3104-3433 mapping to the C-terminus of utrophin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

utrophin (MANCHO7) is recommended for detection of utrophin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 utrophin siRNA (h): sc-43494, utrophin siRNA (m): sc-43495, utrophin shRNA Plasmid (h): sc-43494-SH, utrophin shRNA Plasmid (m): sc-43495-SH, utrophin shRNA (h) Lentiviral Particles: sc-43494-V and utrophin shRNA (m) Lentiviral Particles: sc-43495-V.

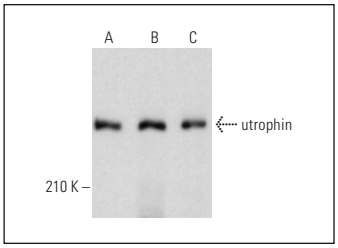
Molecular Weight of utrophin: 400 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or Hep G2 cell lysate: sc-2227.

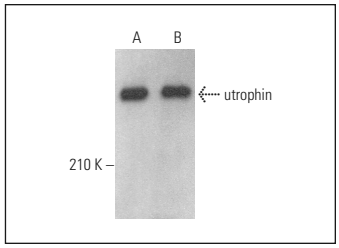
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



utrophin (MANCHO7): sc-81557. Western blot analysis of utrophin expression in HeLa (**A**), Hep G2 (**B**) and AN3CA (**C**) whole cell lysates.



utrophin (MANCHO7): sc-81557. Western blot analysis of utrophin expression in HeLa (**A**) and HL-60 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. van Putten, M., et al. 2012. Comparison of skeletal muscle pathology and motor function of dystrophin and utrophin deficient mouse strains. Neuromuscul. Disord. 22: 406-417.
2. van den Bergen, J.C., et al. 2015. Studying the role of dystrophin-associated proteins in influencing Becker muscular dystrophy disease severity. Neuromuscul. Disord. 25: 530-531.
3. Vanhoutte, D., et al. 2016. Thrombospondin expression in myofibers stabilizes muscle membranes. Elife 5: e17589.
4. Song, Y., et al. 2019. Non-immunogenic utrophin gene therapy for the treatment of muscular dystrophy animal models. Nat. Med. 25: 1505-1511.

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.

CONJUGATES

See **utrophin (8A4): sc-33700** for utrophin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.