

# utrophin (H-300): sc-15377

## 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 (H-300) is a rabbit polyclonal antibody raised against amino acids 801-1100 mapping near the C-terminus of utrophin of human origin.

## PRODUCT

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

## APPLICATIONS

utrophin (H-300) 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)], 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 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.

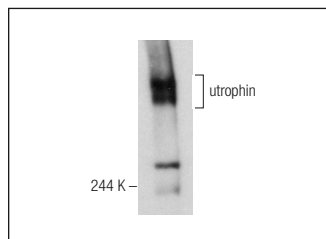
Molecular Weight of utrophin: 400 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Sol8 cell lysate: sc-2249 or L6 whole cell lysate: sc-364196.

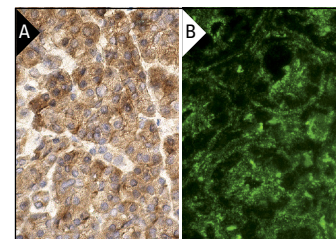
## STORAGE

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

## DATA



utrophin (H-300): sc-15377. Western blot analysis of utrophin expression in L6 whole cell lysate.



utrophin (H-300): sc-15377. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing membrane and cytoplasmic staining of glandular cells (A). Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (B).

## SELECT PRODUCT CITATIONS

1. Ramirez-Sanchez, I., et al. 2004. Expression analysis of the SG-SSPN complex in smooth muscle and endothelial cells of human umbilical cord vessels. *J. Vasc. Res.* 42: 1-7.
2. Stupka, N., et al. 2006. Activated calcineurin ameliorates contraction-induced injury to skeletal muscles of mdx dystrophic mice. *J. Physiol.* 575: 645-656.
3. Nakae, Y., et al. 2008. Subcutaneous injection, from birth, of epigallocatechin-3-gallate, a component of green tea, limits the onset of muscular dystrophy in mdx mice: a quantitative histological, immunohistochemical and electrophysiological study. *Histochem. Cell. Biol.* 129: 489-501.
4. Zhang, J., et al. 2008. Syncoilin is required for generating maximum isometric stress in skeletal muscle but dispensable for muscle cytoarchitecture. *Am. J. Physiol., Cell Physiol.* 294: C1175-C1182.
5. Costantini, J.L., et al. 2009. TAPP2 links phosphoinositide 3-kinase signaling to B cell adhesion through interaction with the cytoskeletal protein utrophin: expression of a novel cell adhesion-promoting complex in B cell leukemia. *Blood* 114: 4703-4712.
6. Lewis, C. and Ohlendieck, K. 2010. Proteomic profiling of naturally protected extraocular muscles from the dystrophin-deficient mdx mouse. *Biochem. Biophys. Res. Commun.* 396: 1024-1029.

## RESEARCH USE

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



Try **utrophin (8A4): sc-33700** or **utrophin (3B6): sc-33699**, our highly recommended monoclonal alternatives to utrophin (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **utrophin (8A4): sc-33700**.