SANTA CRUZ BIOTECHNOLOGY, INC.

utrophin (C-19): sc-7459

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.
3. Ervasti, J.M., et al. 1993. Dystrophin-associated glycoproteins: their possible roles in the pathogenesis of Duchenne muscular dystrophy. Mol. Cell Biol. Hum. Dis. Ser. 3: 139-166.
4. Suzuki, A., et al. 1994. Molecular organization at the glycoprotein-complex-binding site of dystrophin. Three dystrophin-associated proteins bind directly to the carboxy-terminal portion of dystrophin. Eur. J. Biochem. 220: 283-292.

CHROMOSOMAL LOCATION

Genetic locus: UTRN (human) mapping to 6q24.2, DMD (human) mapping to Xp21.2; Utrn (mouse) mapping to 10 A1, Dmd (mouse) mapping to X B.

SOURCE

utrophin (C-19) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-7459 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

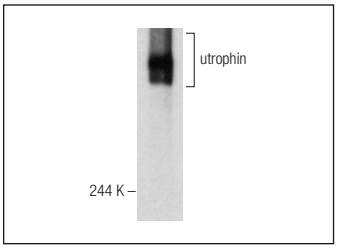
utrophin (C-19) is recommended for detection of utrophin and, to a lesser extent, dystrophin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

utrophin (C-19) is also recommended for detection of utrophin and, to a lesser extent, dystrophin in additional species, including equine, canine, bovine and porcine.

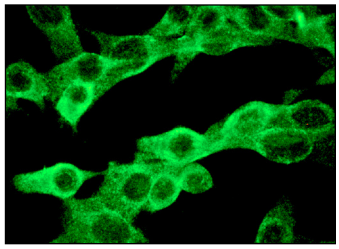
Molecular Weight of utrophin: 400 kDa.

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

DATA



utrophin (C-19): sc-7459. Western blot analysis of utrophin expression in L6 whole cell lysate.



utrophin (C-19): sc-7459. Immunofluorescence staining of methanol-fixed Sol8 cells showing cytoskeletal and membrane localization.

SELECT PRODUCT CITATIONS

1. Chakkalakal, J.V., et al. 2003. Expression of utrophin A mRNA correlates with the oxidative capacity of skeletal muscle fiber types and is regulated by calcineurin/NFAT signaling. Proc. Natl. Acad. Sci. USA 100: 7791-7796.
2. Blanco, G., et al. 2004. Molecular phenotyping of the mouse ky mutant reveals UCP1 upregulation at the neuromuscular junctions of dystrophic soleus muscle. Neuromuscul. Disord. 14: 217-228.
3. Fu, A.K., et al. 2005. Aberrant motor axon projection, acetylcholine receptor clustering, and neurotransmission in cyclin-dependent kinase 5 null mice. Proc. Natl. Acad. Sci. USA 102: 15224-15229.
4. Ségalat, L., et al. 2005. CAPON expression in skeletal muscle is regulated by position, repair, NOS activity, and dystrophy. Exp. Cell Res. 302: 170-179.
5. Mizunoya, W., et al. 2011. Nitric oxide donors improve prednisone effects on muscular dystrophy in the mdx mouse diaphragm. Am. J. Physiol., Cell Physiol. 300: C1065-C1077.