

# utrophin (N-19): sc-7460

## 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.
5. Winder, S.J., et al. 1995. Utrophin actin binding domain: analysis of actin binding and cellular targeting. *J. Cell Sci.* 108: 63-71.

## CHROMOSOMAL LOCATION

Genetic locus: UTRN (human) mapping to 6q24.2.

## SOURCE

utrophin (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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-7460 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 (N-19) is recommended for detection of utrophin of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

utrophin (N-19) is also recommended for detection of utrophin in additional species, including canine.

Suitable for use as control antibody for utrophin siRNA (h): sc-43494, utrophin shRNA Plasmid (h): sc-43494-SH and utrophin shRNA (h) Lentiviral Particles: sc-43494-V.

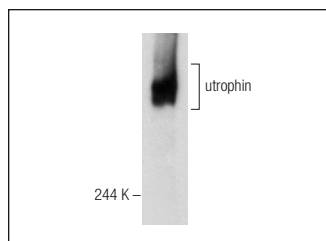
Molecular Weight of utrophin: 400 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, L6 whole cell lysate: 364196 or HL-60 whole cell lysate: sc-2209.

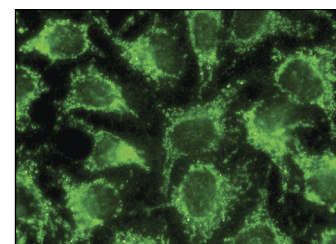
## RECOMMENDED SECONDARY REAGENTS

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



utrophin (N-19): sc-7460. Western blot analysis of utrophin expression in L6 whole cell lysate.



utrophin (N-19): sc-7460. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Bird, N.C., et al. 2012. Immunocytochemistry to study myogenesis in zebrafish. *Methods Mol. Biol.* 798: 153-169.

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Try **utrophin (8A4): sc-33700** or **utrophin (3B6): sc-33699**, our highly recommended monoclonal alternatives to utrophin (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **utrophin (8A4): sc-33700**.