

UNC45B (Y-14): sc-162384

BACKGROUND

UNC45B (protein unc-45 homolog B), also known as SMUNC45 or CMYA4, is a 931 amino acid cytoplasmic protein that contains 3 ARM repeats and 3 N-terminal TPR repeats. Expressed primarily in heart and skeletal muscle, UNCA45B functions as a co-chaperone for HSP 90, effectively facilitating the association of HSP 90 with PR (progesterone receptor). Additionally, UNC45B is thought to be necessary for proper folding of Myosin and is required for sarcomere formation during muscle cell development, thereby playing an important role in muscle formation. Existing as three alternatively spliced isoforms, the gene encoding UNC45B maps to human chromosome 17q12 and mouse chromosome 11 C. Inhibition or overexpression of the gene encoding UNC45B may lead to reduced myoblast fusion and altered sarcomere formation, as well as defective myofibril organization.

REFERENCES

- Price, M.G., Landsverk, M.L., Barral, J.M. and Epstein, H.F. 2002. Two mammalian UNC-45 isoforms are related to distinct cytoskeletal and muscle-specific functions. *J. Cell Sci.* 115: 4013-4023.
- Wohlgemuth, S.L., Crawford, B.D. and Pilgrim, D.B. 2007. The myosin co-chaperone UNC-45 is required for skeletal and cardiac muscle function in zebrafish. *Dev. Biol.* 303: 483-492.
- Liu, L., Srikakulam, R. and Winkelmann, D.A. 2008. Unc45 activates Hsp90-dependent folding of the myosin motor domain. *J. Biol. Chem.* 283: 13185-13193.
- Etard, C., Roostalu, U. and Strähle, U. 2008. Shuttling of the chaperones Unc45b and Hsp90a between the A band and the Z line of the myofibril. *J. Cell Biol.* 180: 1163-1175.
- Srikakulam, R., Liu, L. and Winkelmann, D.A. 2008. Unc45b forms a cytosolic complex with Hsp90 and targets the unfolded myosin motor domain. *PLoS ONE* 3: e2137.
- Bernick, E.P., Zhang, P.J. and Du, S. 2010. Knockdown and overexpression of Unc-45b result in defective myofibril organization in skeletal muscles of zebrafish embryos. *BMC Cell Biol.* 11: 70.
- Geach, T.J. and Zimmerman, L.B. 2010. Paralysis and delayed Z-disc formation in the *Xenopus tropicalis* unc45b mutant dicky ticker. *BMC Dev. Biol.* 10: 75.

CHROMOSOMAL LOCATION

Genetic locus: UNC45B (human) mapping to 17q12; Unc45b (mouse) mapping to 11 C.

SOURCE

UNC45B (Y-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UNC45B of human origin.

STORAGE

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

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-162384 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UNC45B (Y-14) is recommended for detection of UNC45B 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with UNC45A.

UNC45B (Y-14) is also recommended for detection of UNC45B in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UNC45B siRNA (h): sc-94067, UNC45B siRNA (m): sc-154920, UNC45B shRNA Plasmid (h): sc-94067-SH, UNC45B shRNA Plasmid (m): sc-154920-SH, UNC45B shRNA (h) Lentiviral Particles: sc-94067-V and UNC45B shRNA (m) Lentiviral Particles: sc-154920-V.

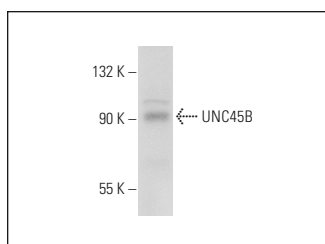
Molecular Weight of UNC45B isoforms 1/2/3: 104/95 kDa.

Positive Controls: human skeletal muscle extract: sc-363776.

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



UNC45B (Y-14): sc-162384. Western blot analysis of UNC45B expression in human skeletal muscle tissue extract.

RESEARCH USE

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