SANTA CRUZ BIOTECHNOLOGY, INC.

UNC45A (D-6): sc-390211

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

UNC45A (UNC-45 homolog A), also known as SMAP1 (smooth muscle cell-associated protein 1) or GCUNC45, is a 944 amino acid protein that localizes to the perinuclear region of the cytoplasm and contains three TPR repeats. Expressed in spinal cord, bone marrow, peripheral blood leukocytes, trachea, stomach and adrenal gland, UNCA45A functions as a chaperone for HSP 90, effectively facilitating the association of HSP 90 with PR (progesterone receptor). Additionally, UNC45A is thought to be necessary for proper folding of Myosin and is required for normal myotube formation during muscle cell development, thereby playing an important role in muscle formation. Overexpression of UNC45A is associated with rapid cell proliferation and motility, especially that observed in ovarian cancer, suggesting a role for UNC45A in tumorigenesis. Multiple isoforms of UNC45A exist due to alternative splicing events.

REFERENCES

1. Price, M.G., et al. 2002. Two mammalian UNC-45 isoforms are related to distinct cytoskeletal and muscle-specific functions. J. Cell Sci. 115: 4013-4023.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611219. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Chadli, A., et al. 2006. GCUNC-45 is a novel regulator for the progesterone receptor/Hsp90 chaperoning pathway. Mol. Cell. Biol. 26: 1722-1730.
4. Bazzaro, M., et al. 2007. Myosin II co-chaperone general cell UNC45 overexpression is associated with ovarian cancer, rapid proliferation, and motility. Am. J. Pathol. 171: 1640-1649.
5. Chadli, A., et al. 2008. Analysis of Hsp90 cochaperone interactions reveals a novel mechanism for TPR protein recognition. Biochemistry 47: 2850-2857.
6. Anderson, M.J., et al. 2008. Loss of UNC45A precipitates arteriovenous shunting in the aortic arches. Dev. Biol. 318: 258-267.
7. Chadli, A., et al. 2008. GCUNC45 is the first Hsp90 co-chaperone to show α/β isoform specificity. J. Biol. Chem. 283: 9509-9512.

CHROMOSOMAL LOCATION

Genetic locus: UNC45A (human) mapping to 15q26.1; Unc45a (mouse) mapping to 7 D3.

SOURCE

UNC45A (D-6) is a mouse monoclonal antibody raised against a peptide mapping at the C-terminus of UNC45A of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-390211 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

UNC45A (D-6) is recommended for detection of UNC45A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for UNC45A siRNA (h): sc-90291, UNC45A siRNA (m): sc-154919, UNC45A shRNA Plasmid (h): sc-90291-SH, UNC45A shRNA Plasmid (m): sc-154919-SH, UNC45A shRNA (h) Lentiviral Particles: sc-90291-V and UNC45A shRNA (m) Lentiviral Particles: sc-154919-V.

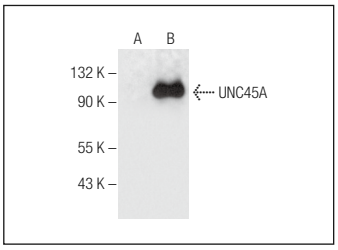
Molecular Weight of UNC45A: 103 kDa.

Positive Controls: UNC45A (h3): 293T Lysate: sc-175029.

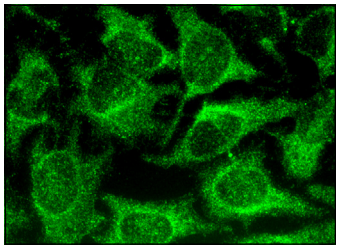
RECOMMENDED SUPPORT REAGENTS

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



UNC45A (D-6): sc-390211. Western blot analysis of UNC45A expression in non-transfected: sc-117752 (**A**) and human UNC45A transfected: sc-175029 (**B**) 293T whole cell lysates.



UNC45A (D-6): sc-390211. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.