

# ACTL7B (G-2): sc-514196

## BACKGROUND

ACTL7B (Actin-like 7B) is a member of the ARP family of Actin-related proteins that contain an Actin fold and are involved in spindle orientation, nuclear migration and chromatin remodeling events. Localized to the cytoplasm and expressed in the testis and prostate, ACTL7B is 415 amino acids in length and is encoded by a gene that is oriented in a head-to-head formation with the familial dysautonomia (FD) candidate region on chromosome 9. Although located in a region associated with FD, ACTL7B is not involved in the pathogenesis of the genetic disease. ACTL7B shares high sequence similarity with ACTL7A (Actin-like 7A) and contains one conserved protein kinase C (PKC) site and one conserved cAMP/cGMP-dependent phosphorylation site. The human and mouse proteins share 88% sequence similarity.

## REFERENCES

- Chadwick, B.P., Mull, J., Helbling, L.A., Gill, S., Leyne, M., Robbins, C.M., Pinkett, H.W., Makalowska, I., Maayan, C., Blumenfeld, A., Axelrod, F.B., Brownstein, M., Gusella, J.F. and Slaugenhaupt, S.A. 1999. Cloning, mapping, and expression of two novel Actin genes, Actin-like-7A (ACTL7A) and Actin-like-7B (ACTL7B), from the familial dysautonomia candidate region on 9q31. *Genomics* 58: 302-309.
- Schafer, D.A. and Schroer, T.A. 1999. Actin-related proteins. *Annu. Rev. Cell Dev. Biol.* 15: 341-363.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604304. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Hisano, M., Ohta, H., Nishimune, Y. and Nozaki, M. 2003. Methylation of CpG dinucleotides in the open reading frame of a testicular germ cell-specific intronless gene, *Tact1/Actl7b*, represses its expression in somatic cells. *Nucleic Acids Res.* 31: 4797-4804.
- Tanaka, H., Iguchi, N., Egydio de Carvalho, C., Tadokoro, Y., Yomogida, K. and Nishimune, Y. 2003. Novel Actin-like proteins T-ACTIN 1 and T-ACTIN 2 are differentially expressed in the cytoplasm and nucleus of mouse haploid germ cells. *Biol. Reprod.* 69: 475-482.
- Hisano, M., Yamada, S., Tanaka, H., Nishimune, Y. and Nozaki, M. 2003. Genomic structure and promoter activity of the testis haploid germ cell-specific intronless genes, *Tact1* and *Tact2*. *Mol. Reprod. Dev.* 65: 148-156.

## CHROMOSOMAL LOCATION

Genetic locus: ACTL7B (human) mapping to 9q31.3; Actl7b (mouse) mapping to 4 B3.

## SOURCE

ACTL7B (G-2) is a mouse monoclonal antibody raised against amino acids 329-368 mapping near the C-terminus of ACTL7B of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ACTL7B (G-2) is recommended for detection of ACTL7B 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 ACTL7B siRNA (h): sc-92677, ACTL7B siRNA (m): sc-140845, ACTL7B shRNA Plasmid (h): sc-92677-SH, ACTL7B shRNA Plasmid (m): sc-140845-SH, ACTL7B shRNA (h) Lentiviral Particles: sc-92677-V and ACTL7B shRNA (m) Lentiviral Particles: sc-140845-V.

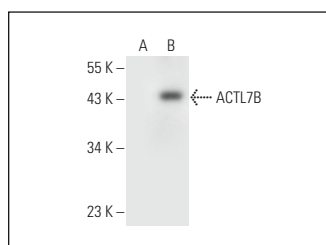
Molecular Weight of ACTL7B: 45 kDa.

Positive Controls: ACTL7B (h): 293T Lysate: sc-115085.

## 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



ACTL7B (G-2): sc-514196. Western blot analysis of ACTL7B expression in non-transfected: sc-117752 (A) and human ACTL7B transfected: sc-115085 (B) 293T whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.