

# ACTL7A (P-15): sc-162484

## BACKGROUND

ACTL7A (actin-like 7A) 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 cytoplasm and strongly expressed in testis, ACTL7A is 435 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, ACTL7A is not involved in the pathogenesis of the genetic disease. ACTL7A shares high sequence similarity with ACTL7B (actin-like 7B) and contains several conserved protein kinase C (PKC) sites, one conserved cAMP/cGMP-dependent phosphorylation site and one leucine zipper consensus sequence. Human and mouse ACTL7A share 86% sequence similarity.

## REFERENCES

- Schafer, D.A., et al. 1999. Actin-related proteins. *Annu. Rev. Cell Dev. Biol.* 15: 341-363.
- Chadwick, B.P., et al. 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.
- Slaugenhaupt, S.A., et al. 2001. Tissue-specific expression of a splicing mutation in the IKBKAP gene causes familial dysautonomia. *Am. J. Hum. Genet.* 68: 598-605.
- Cuajungco, M.P., et al. 2001. Cloning, characterization, and genomic structure of the mouse Ikbkap gene. *DNA Cell Biol.* 20: 579-586.
- Chung, K.W., et al. 2003. African American hypertensive nephropathy maps to a new locus on chromosome 9q31-q32. *Am. J. Hum. Genet.* 73: 420-429.
- Hisano, M., et al. 2003. Genomic structure and promoter activity of the testis haploid germ cell-specific intronless genes, Tact1 and Tact2. *Mol. Reprod. Dev.* 65: 148-156.
- Hims, M.M., et al. 2007. A humanized IKBKAP transgenic mouse models a tissue-specific human splicing defect. *Genomics* 90: 389-396.

## CHROMOSOMAL LOCATION

Genetic locus: ACTL7A (human) mapping to 9q31.3; Actl7a (mouse) mapping to 4 B3.

## SOURCE

ACTL7A (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ACTL7A 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-162484 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

ACTL7A (P-15) is recommended for detection of ACTL7A 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 ACTL7B.

ACTL7A (P-15) is also recommended for detection of ACTL7A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ACTL7A siRNA (h): sc-92832, ACTL7A siRNA (m): sc-140844, ACTL7A shRNA Plasmid (h): sc-92832-SH, ACTL7A shRNA Plasmid (m): sc-140844-SH, ACTL7A shRNA (h) Lentiviral Particles: sc-92832-V and ACTL7A shRNA (m) Lentiviral Particles: sc-140844-V.

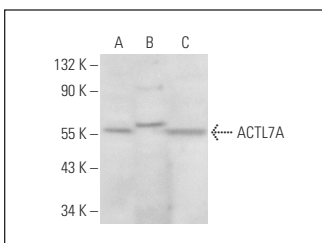
Molecular Weight of ACTL7A: 49 kDa.

Positive Controls: mouse testis extract: sc-2405, rat testis extract: sc-2400 or U-251-MG whole cell lysate: sc-364176.

## 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



ACTL7A (P-15): sc-162484. Western blot analysis of ACTL7A expression in mouse testis (A) and rat testis (B) tissue extracts and U-251-MG whole cell lysate (C).

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.