SANTA CRUZ BIOTECHNOLOGY, INC.

RP2 (C-9): sc-390220

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RP2 (retinitis pigmentosa 2), also known as TBCCD2, is a 350 amino acid protein that localizes to the cytoplasmic side of the cell membrane and belongs to the TBCC family. Expressed ubiquitously, RP2 functions to stimulate the GTPase activity of tubulin and is thought to act as a guanine nucleotide dissociation inhibitor for ARL3 (ADP-ribosylation factor-like 3), preventing the GTP-bound form of ARL3 from dissociating. Via its ability to stimulate tubulin activity, RP2 plays an important role in retinal development. RP2 contains one C-CAP/cofactor C-like domain and can be myristoylated or palmitoylated, both of which are thought to be required for proper membrane targeting. Defects in the gene encoding RP2 are the cause of retinitis pigmentosa type 2 (RP2), a disorder characterized by the degeneration of photoreceptor cells, resulting in night vision blindness and an eventual loss of both peripheral and central vision.

REFERENCES

1. Thiselton, D.L., et al. 1996. Mapping the RP2 locus for X-linked retinitis pigmentosa on proximal Xp: a genetically defined 5-cM critical region and exclusion of candidate genes by physical mapping. Genome Res. 6: 1093-1102.
2. Schwahn, U., et al. 1998. Positional cloning of the gene for X-linked retinitis pigmentosa 2. Nat. Genet. 19: 327-332.
3. Rosenberg, T., et al. 1999. Genotype-phenotype correlation in X-linked retinitis pigmentosa 2 (RP2). Ophthalmic Genet. 20: 161-172.
4. Chapple, J.P., et al. 2000. Mutations in the N-terminus of the X-linked retinitis pigmentosa protein RP2 interfere with the normal targeting of the protein to the plasma membrane. Hum. Mol. Genet. 9: 1919-1926.
5. Thiselton, D.L., et al. 2000. Novel frameshift mutations in the RP2 gene and polymorphic variants. Hum. Mutat. 15: 580.

CHROMOSOMAL LOCATION

Genetic locus: RP2 (human) mapping to Xp11.23; Rp2 (mouse) mapping to X A1.3.

SOURCE

RP2 (C-9) is a mouse monoclonal antibody raised against amino acids 142-350 mapping at the C-terminus of RP2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RP2 (C-9) is available conjugated to agarose (sc-390220 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390220 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390220 PE), fluorescein (sc-390220 FITC), Alexa Fluor® 488 (sc-390220 AF488), Alexa Fluor® 546 (sc-390220 AF546), Alexa Fluor® 594 (sc-390220 AF594) or Alexa Fluor® 647 (sc-390220 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390220 AF680) or Alexa Fluor® 790 (sc-390220 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

RP2 (C-9) is recommended for detection of RP2 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 RP2 siRNA (h): sc-76428, RP2 siRNA (m): sc-76429, RP2 shRNA Plasmid (h): sc-76428-SH, RP2 shRNA Plasmid (m): sc-76429-SH, RP2 shRNA (h) Lentiviral Particles: sc-76428-V and RP2 shRNA (m) Lentiviral Particles: sc-76429-V.

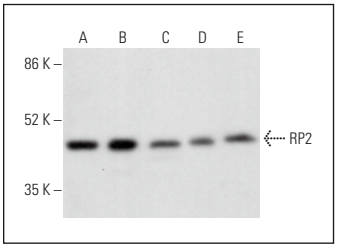
Molecular Weight of RP2: 40 kDa.

Positive Controls: RP2 (h): 293T Lysate: sc-115936, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

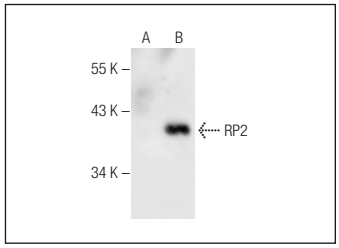
RECOMMENDED SUPPORT REAGENTS

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



RP2 (C-9): sc-390220. Western blot analysis of RP2 expression in HeLa nuclear extract (**A**) and HeLa (**B**), Jurkat (**C**), HEL 92.1.7 (**D**) and K-562 (**E**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



RP2 (C-9): sc-390220. Western blot analysis of RP2 expression in non-transfected: sc-117752 (**A**) and human RP2 transfected: sc-115936 (**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.