

R9AP (h): 293T Lysate: sc-372311

BACKGROUND

R9AP, also known as RGS9BP (regulator of G-protein signaling 9-binding protein), is a 235 amino acid single-pass type IV membrane protein that belongs to the RGS7BP/RGS9BP family. R9AP has a C-terminal transmembrane domain that functions as the membrane anchor for the other largely soluble interacting partners, such as photoreceptor GTPase accelerating protein RGS9-1. R9AP mRNA has been detected only in retina, and the protein only in photoreceptors. R9AP is encoded by one intronless gene in both human and mouse. Defects in the R9AP gene are a cause of prolonged electroretinal response suppression (PERRS), also known as bradyopsia. PERRS is characterized by difficulty adjusting to sudden changes in luminance levels mediated by cones. The R9AP gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 19q13.11.

REFERENCES

1. Hu, G. and Wensel, T.G. 2002. R9AP, a membrane anchor for the photoreceptor GTPase accelerating protein, RGS9-1. *Proc. Natl. Acad. Sci. USA* 99: 9755-9760.
2. Hu, G., Zhang, Z. and Wensel, T.G. 2003. Activation of RGS9-1GTPase acceleration by its membrane anchor, R9AP. *J. Biol. Chem.* 278: 14550-14554.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607814. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Nishiguchi, K.M., Sandberg, M.A., Kooijman, A.C., Martemyanov, K.A., Pott, J.W., Hagstrom, S.A., Arshavsky, V.Y., Berson, E.L. and Dryja, T.P. 2004. Defects in RGS9 or its anchor protein R9AP in patients with slow photoreceptor deactivation. *Nature* 427: 75-78.
5. Cheng, J.Y., Luu, C.D., Yong, V.H., Mathur, R., Aung, T. and Vithana, E.N. 2007. Bradyopsia in an Asian man. *Arch. Ophthalmol.* 125: 1138-1140.
6. Stockman, A., Smithson, H.E., Webster, A.R., Holder, G.E., Rana, N.A., Ripamonti, C. and Sharpe, L.T. 2008. The loss of the PDE6 deactivating enzyme, RGS9, results in precocious light adaptation at low light levels. *J. Vis.* 8: 1001-1010.
7. Michaelides, M., Li, Z., Rana, N.A., Richardson, E.C., Hykin, P.G., Moore, A.T., Holder, G.E. and Webster, A.R. 2010. Novel mutations and electrophysiologic findings in RGS9- and R9AP-associated retinal dysfunction (Bradyopsia). *Ophthalmology* 117: 120-127.

CHROMOSOMAL LOCATION

Genetic locus: RGS9BP (human) mapping to 19q13.11.

PRODUCT

R9AP (h): 293T Lysate represents a lysate of human R9AP transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

R9AP (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive R9AP antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

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.