

SR-3B (M-14): sc-51194

BACKGROUND

Serotonin is a molecule that functions as a neurotransmitter, a hormone and a mitogen, and it modulates several processes including psychiatric disorders, cardiovascular function and motility of the gastrointestinal tract. Serotonin receptors (also designated 5-hydroxytryptamine or 5-HT receptors) are members of the G protein-coupled receptor family that mediate the effects of serotonin. The serotonin receptors (alternatively designated SR) include SR-1, SR-2, SR-3, SR-4, SR-5, SR-6 and SR-7. The SR-1 receptors are subdivided into SR-1A, B, C, D, E and F receptors, while the SR-2 receptors comprise three subtypes: SR-2A, B and C. SR-3 is divided into SR-3A and SR-3B, a 441 amino acid protein with 41% sequence homology to SR-3A. SR-3B is responsible for fast, depolarizing responses in neurons after activation. The SR-3B protein is expressed in kidney and brain, specifically in hippocampus, thalamus and caudate nucleus, and particularly in amygdala. No expression of SR-3B is detected in heart, placenta, lung, liver, skeletal muscle or pancreas.

REFERENCES

- Davies, P.A., Pistis, M., Hanna, M.C., Peters, J.A., Lambert, J.J., Hales, T.G. and Kirkness, E.F. 1999. The 5-HT_{3B} subunit is a major determinant of serotonin-receptor function. *Nature* 397: 359-363.
- Dubin, A.E., Huvar, R., D'Andrea, M.R., Pyati, J., Zhu, J.Y., Joy, K.C., Wilson, S.J., Galindo, J.E., Glass, C.A., Luo, L., Jackson, M.R., Lovenberg, T.W. and Erlander, M.G. 1999. The pharmacological and functional characteristics of the serotonin 5-HT_{3A} receptor are specifically modified by a 5-HT_{3B} receptor subunit. *J. Biol. Chem.* 274: 30799-30810.
- Mott, D.D., Erreger, K., Banke, T.G. and Traynelis, S.F. 2001. Open probability of homomeric murine 5-HT_{3A} serotonin receptors depends on subunit occupancy. *J. Physiol.* 535: 427-443.
- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604654. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Kelley, S.P., Dunlop, J.I., Kirkness, E.F., Lambert, J.J. and Peters, J.A. 2003. A cytoplasmic region determines single-channel conductance in 5-HT₃ receptors. *Nature* 424: 321-324.
- Melke, J., Westberg, L., Nilsson, S., Landen, M., Soderstrom, H., Baghaei, F., Rosmond, R., Holm, G., Björntorp, P., Nilsson, L.G., Adolphsson, R. and Eriksson, E. 2003. A polymorphism in the serotonin receptor 3A (HTR3A) gene and its association with harm avoidance in women. *Arch. Gen. Psychiatry* 60: 1017-1023.

CHROMOSOMAL LOCATION

Genetic locus: Htr3b (mouse) mapping to 9 A5.3.

SOURCE

SR-3B (M-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SR-3B of mouse origin.

STORAGE

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

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-51194 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SR-3B (M-14) is recommended for detection of serotonin 3B receptor of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 SR-3B siRNA (m): sc-61613, SR-3B shRNA Plasmid (m): sc-61613-SH and SR-3B shRNA (m) Lentiviral Particles: sc-61613-V.

Molecular Weight of SR-3B: 50 kDa.

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) 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.

SELECT PRODUCT CITATIONS

- Uteshev, V.V., Tupal, S., Mhaskar, Y. and Faingold, C.L. 2010. Abnormal serotonin receptor expression in DBA/2 mice associated with susceptibility to sudden death due to respiratory arrest. *Epilepsy Res.* 88: 183-188.
- Faingold, C.L., Randall, M., Mhaskar, Y. and Uteshev, V.V. 2011. Differences in serotonin receptor expression in the brainstem may explain the differential ability of a serotonin agonist to block seizure-induced sudden death in DBA/2 vs. DBA/1 mice. *Brain Res.* 1418: 104-110.

RESEARCH USE

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

PROTOCOLS

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



Try **SR-3B (H-9): sc-390642**, our highly recommended monoclonal alternative to SR-3B (M-14).