SANTA CRUZ BIOTECHNOLOGY, INC.

SR-2B (I-20): sc-15076

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Serotonin (also designated 5-hydroxytryptamine or 5-HT) is a molecule that functions as a neurotransmitter, a hormone and a mitogen, and it is predominantly expressed in the gut, platelets and central nervous system (CNS). In the CNS, Serotonin modulates several processes, including anxiety, sleep, appetite, behavior and drug abuse. In platelets and gut, serotonin plays a major role in cardiovascular function and motility of the gastrointestinal tract, respectively. Serotonin mediates its effects through several of G protein-coupled receptors, designated 5-HT receptors or alternatively SR receptors. The SR-2 receptors are comprised of three subtypes, SR-2A, SR-2B and SR-2C, which activate phospholipase C and release intracellular stores of calcium in response to Serotonin. SR-2A has a specific role in tracheal smooth muscle contraction, bronchoconstriction and mediating Aldosterone production, and it is also thought to play a role in several psychiatric disorders, including depression and schizophrenia. SR-2B is expressed in embryonic and adult cardiovascular tissues, gut and brain and plays an important role in the pathology of cardiac disorders. SR-2C is thought to mediate the effects of atypical antipsychotic drugs.

REFERENCES

1. Watts, S.W., et al. 1994. Contractile serotonin-2A receptor signal transduction in guinea pig trachea: importance of protein kinase C and extracellular and intracellular calcium but not phosphoinositide hydrolysis. J. Pharmacol. Exp. Ther. 271: 832-844.
2. Goppelt-Struebe, M., et al. 1998. Signaling pathways mediating induction of the early response genes prostaglandin G/H synthase-2 and egr-1 by serotonin via 5-HT2A receptors. J. Cell. Physiol. 175: 341-347.
3. Nebigil, C.G., et al. 2000. Serotonin 2B receptor is required for heart development. Proc. Natl. Acad. Sci. USA 97: 9508-9513.
4. Contesse, V., et al. 2000. Role of 5-HT in the regulation of the brain-pituitary-adrenal axis: effects of 5-HT on adrenocortical cells. Can. J. Physiol. Pharmacol. 78: 967-983.
5. Xu, T., et al. 2000. Cellular localization of serotonin 2A (5HT(2A)) receptors in the rat brain. Brain Res. Bull. 51: 499-505.

CHROMOSOMAL LOCATION

Genetic locus: HTR2B (human) mapping to 2q37.1; Htr2b (mouse) mapping to 1 C5.

SOURCE

SR-2B (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SR-2B of mouse 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-15076 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SR-2B (I-20) is recommended for detection of serotonin 2B receptor (5-HT2B) of mouse, rat and human 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-2B siRNA (h): sc-42233, SR-2B siRNA (m): sc-42234, SR-2B shRNA Plasmid (h): sc-42233-SH, SR-2B shRNA Plasmid (m): sc-42234-SH, SR-2B shRNA (h) Lentiviral Particles: sc-42233-V and SR-2B shRNA (m) Lentiviral Particles: sc-42234-V.

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

1. Siddiqui, E.J., et al. 2006. The effect of Serotonin and Serotonin antagonists on bladder cancer cell proliferation. BJU Int. 97: 634-639.
2. Siddiqui, E.J., et al. 2006. The role of Serotonin (5-hydroxytryptamine1A and 1B) receptors in prostate cancer cell proliferation. J. Urol. 176: 1648-1653.
3. Uteshev, V.V., et al. 2010. Abnormal serotonin receptor expression in DBA/2 mice associated with susceptibility to sudden death due to respiratory arrest. Epilepsy Res. 88: 183-188.
4. Faingold, C.L., et al. 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.

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.