

SR-2A (H-18): sc-15074

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-Strube, 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-HT_{2A} 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.

CHROMOSOMAL LOCATION

Genetic locus: HTR2A (human) mapping to 13q14.2; Htr2a (mouse) mapping to 14 D3.

SOURCE

SR-2A (H-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SR-2A 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-15074 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SR-2A (H-18) is recommended for detection of serotonin 2A receptor (5-HT_{2A}) 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).

SR-2A (H-18) is also recommended for detection of serotonin 2A receptor (5-HT_{2A}) in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SR-2A siRNA (h): sc-42231, SR-2A siRNA (m): sc-42232, SR-2A shRNA Plasmid (h): sc-42231-SH, SR-2A shRNA Plasmid (m): sc-42232-SH, SR-2A shRNA (h) Lentiviral Particles: sc-42231-V and SR-2A shRNA (m) Lentiviral Particles: sc-42232-V.

Molecular Weight of SR-2A: 55 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) 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.

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-hydroxytryptamine_{1A} and 1B) receptors in prostate cancer cell proliferation. *J. Urol.* 176: 1648-1653.
3. Liu, Q. and Wong-Riley, M.T. 2009. Postnatal changes in the expressions of serotonin 1A, 1B, and 2A receptors in ten brain stem nuclei of the rat: implication for a sensitive period. *Neuroscience* 65: 61-78.

RESEARCH USE

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

MONOS
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Try **SR-2A (A-4): sc-166775**, our highly recommended monoclonal alternative to SR-2A (H-18).