

SR-7 (K-13): sc-31474

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. SR-3 is a ligand-gated ion channel, whereas all other known serotonin receptor subtypes are G protein-coupled receptors. The gene which encodes SR-3 maps to human chromosome 11q23.1-q23.2. SR-4 mediates widespread effects in central and peripheral nervous systems. The gene which encodes SR-4 maps to human chromosome 5q31-q33. SR-7 belongs to the superfamily of G protein-coupled receptors. The gene which encodes SR-7 maps to human chromosome 10q23.31.

REFERENCES

1. Maricq, A.V., et al. 1991. Primary structure and functional expression of the 5HT3 receptor, a serotonin-gated ion channel. *Science* 254: 432-437.
2. Kenakin, T.P., et al. 1992. Definition of pharmacological receptors. *Pharmacol. Rev.* 44: 351-362.
3. Ruat, M., et al. 1993. Molecular cloning, characterization, and localization of a high-affinity serotonin receptor (5-HT7) activating cAMP formation. *Proc. Natl. Acad. Sci. USA* 90: 8547-8551.
4. Gelernter, J., et al. 1995. Assignment of the 5HT7 receptor gene (HTR7) to chromosome 10q and exclusion of genetic linkage with Tourette syndrome. *Genomics* 26: 207-209.
5. Weiss, B., et al. 1995. Assignment of a human homolog of the mouse Htr3 receptor gene to chromosome 11q23.1-q23.2. *Genomics* 29: 304-305.
6. Eglen, R.M., et al. 1995. Central 5-HT4 receptors. *Trends Pharmacol. Sci.* 16: 391-398.
7. Claeyens, S., et al. 1997. Assignment of 5-hydroxytryptamine receptor (HTR4) to human chromosome 5 bands q31→q33 by *in situ* hybridization. *Cytogenet. Cell Genet.* 78: 133-134.
8. 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.
9. Davies, P.A., et al. 1999. The 5-HT3B subunit is a major determinant of serotonin-receptor function. *Nature* 397: 359-363.

CHROMOSOMAL LOCATION

Genetic locus: HTR7 (human) mapping to 10q23.31; Htr7 (mouse) mapping to 19 C2.

SOURCE

SR-7 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of SR-7 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-31474 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SR-7 (K-13) is recommended for detection of SR-7 isoforms A, B and D 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).

SR-7 (K-13) is also recommended for detection of SR-7 isoforms A, B and D in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SR-7 siRNA (h): sc-42246, SR-7 siRNA (m): sc-42247, SR-7 shRNA Plasmid (h): sc-42246-SH, SR-7 shRNA Plasmid (m): sc-42247-SH, SR-7 shRNA (h) Lentiviral Particles: sc-42246-V and SR-7 shRNA (m) Lentiviral Particles: sc-42247-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.

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.

PROTOCOLS

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