



HTR3E (S-12): sc-102608

BACKGROUND

The SR (Serotonin (5-hydroxytryptamine, or 5-HT) receptor) is a 5 subunit, oligomeric complex and HTR3E (5-hydroxytryptamine receptor 3, family member E) is a subunit of the SR. HTR3E is also known as 5-HT3E or SR 3E and is a 456 amino acid protein that is expressed in adult colon and intestinal tissues. HTR3E, which is expressed as five isoforms, contains four trans-membrane spanning domains and is localized to the cellular membrane where it exists as a multi-pass membrane protein and belongs to the ligand-gated ionic channel family. HTR3E is thought to be closely related to HTR3C and HTR3D, which also function as subunits of SRs. The genes encoding these 3 subunits map very close to each other on chromosome 3. HTR3E, HTR3C and HTR3D are thought to be expressed individually within the endoplasmic reticulum (ER) and are detected elsewhere when coexpressed with HTR3A. HTR3E forms a pentaheteromeric complex with HTR3A, the result of which is a ligand-gated ionic SR which functions as a neurotransmitter, a hormone and a mitogen. This receptor is specific for cations and, when activated, causes fast depolarization in neurons. Due to its expression in colon and intestine, HTR3E may be involved in Serotonin functions within the gut, possibly functioning as a target for treatment of irritable bowel syndrome (IBS).

REFERENCES

- Niesler, B., Frank, B., Kapeller, J. and Rappold, G.A. 2003. Cloning, physical mapping and expression analysis of the human 5-HT3 serotonin receptor-like genes HTR3C, HTR3D and HTR3E. *Gene* 310: 101-111.
- Peters, J.A., Kelley, S.P., Dunlop, J.I., Kirkness, E.F., Hales, T.G. and Lambert, J.J. 2004. The 5-hydroxytryptamine type 3 (5-HT3) receptor reveals a novel determinant of single-channel conductance. *Biochem. Soc. Trans.* 32: 547-552.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610123. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Niesler, B., Walstab, J., Combrink, S., Möller, D., Kapeller, J., Rietdorf, J., Bönnisch, H., Göthert, M., Rappold, G. and Brüss, M. 2007. Characterization of the novel human serotonin receptor subunits 5-HT3C, 5-HT3D, and 5-HT3E. *Mol. Pharmacol.* 72: 8-17.
- Kapeller, J., Houghton, L.A., Mönnikes, H., Walstab, J., Möller, D., Bönnisch, H., Burwinkel, B., Autschbach, F., Funke, B., Lasitschka, F., Gassler, N., Fischer, C., Whorwell, P.J., Atkinson, W., Fell, C., Büchner, et al. 2008. First evidence for an association of a functional variant in the microRNA-510 target site of the serotonin receptor-type 3E gene with diarrhea predominant irritable bowel syndrome. *Hum. Mol. Genet.* 17: 2967-2977.
- Chetty, N., Coupar, I.M., Tan, Y.Y., Desmond, P.V. and Irving, H.R. 2008. Distribution of serotonin receptors and interacting proteins in the human sigmoid colon. *Neurogastroenterol. Motil.* 21: 551-558.
- Niesler, B., Kapeller, J., Hammer, C. and Rappold, G. 2008. Serotonin type 3 receptor genes: HTR3A, B, C, D, E. *Pharmacogenomics* 9: 501-504.
- Barnes, N.M., Hales, T.G., Lummis, S.C. and Peters, J.A. 2009. The 5-HT(3) receptor-the relationship between structure and function. *Neuropharmacology* 56: 273-284.

CHROMOSOMAL LOCATION

Genetic locus: HTR3E (human) mapping to 3q27.1.

SOURCE

HTR3E (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HTR3E 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-102608 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HTR3E (S-12) is recommended for detection of HTR3E of 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); non cross-reactive with family member HTR3C or HTR3D.

Suitable for use as control antibody for HTR3E siRNA (h): sc-78474, HTR3E shRNA Plasmid (h): sc-78474-SH and HTR3E shRNA (h) Lentiviral Particles: sc-78474-V.

Molecular Weight of HTR3E: 51 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.

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.