



# Serotonin (YC5/45): sc-58031

## BACKGROUND

Serotonin (5-hydroxytryptamine, or 5-HT) is a monoamine neurotransmitter that is made in serotonergic neurons in the central nervous system (CNS) and in enterochromaffin cells in the gastrointestinal tract. Neurons of the Raphe nuclei are the main source of Serotonin, and its action is terminated primarily via uptake of Serotonin from the synapse. In the CNS, Serotonin is important in the regulation of mood, sleep, vomiting, sexuality and appetite. Low levels of Serotonin are commonly associated with several disorders such as depression, migraines, bipolar disorder and anxiety. Several agents can inhibit Serotonin reuptake including MDMA, cocaine, tricyclic antidepressants and selective Serotonin reuptake inhibitors (SSRIs).

## REFERENCES

1. Ensrud, K.E., et al. For the Study of Osteoporotic Fractures Research Group. 2006. Use of selective Serotonin reuptake inhibitors and sleep disturbances in community-dwelling older women. *J. Am. Geriatr. Soc.* 54: 1508-1515.
2. Evseev, V.A., et al. 2006. Effect of antibodies against Serotonin, bovine serum Albumin, and complete Freund's adjuvant on mice subjected to acute immobilization stress. *Bull. Exp. Biol. Med.* 141: 200-203.
3. Kim, H.S., et al. 2006. Serotonin stimulates GnRH secretion through the c-Src-PLC  $\gamma$ 1 pathway in GT1-7 hypothalamic cells. *J. Endocrinol.* 190: 581-591.
4. Klein, N., et al. 2006. *In vivo* imaging of Serotonin transporter occupancy by means of SPECT and [ $^{123}$ I]ADAM in healthy subjects administered different doses of escitalopram or citalopram. *Psychopharmacology* 188: 263-272.
5. Lanzagorta, N., et al. 2006. Effect to the Serotonin transporter gene (5-HTT) on personality dimensions in individuals without psychopathology. *Actas Esp. Psiquiatr.* 34: 303-308.
6. Li, J., et al. 2006. Association between polymorphisms in Serotonin 2C receptor gene and attention-deficit/hyperactivity disorder in Han Chinese subjects. *Neurosci. Lett.* 407: 107-111.
7. Lott, D.C., et al. 2006. Serotonin transporter genotype and acute subjective response to Amphetamine. *Am. J. Addict.* 15: 327-335.
8. Moltzen, E.K. and Bang-Andersen, B. 2006. Serotonin reuptake inhibitors: the corner stone in treatment of depression for half a century—a medicinal chemistry survey. *Curr. Top. Med. Chem.* 6: 1801-1823.
9. Shibusawa, N. and Mori, M. 2006. Serotonin producing tumors (carcinoid tumors and carcinoid syndrome). *Nippon Rinsho* 3: 324-327.

## SOURCE

Serotonin (YC5/45) is a rat monoclonal antibody raised against Serotonin (5-HT) conjugated to BSA.

## PRODUCT

Each vial contains 50  $\mu$ l culture supernatant containing IgG<sub>2c</sub> with < 0.1% sodium azide.

## APPLICATIONS

Serotonin (YC5/45) is recommended for detection of Serotonin containing cell bodies and terminals in the central and peripheral nervous systems of broad mammalian origin by immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:2500); non cross-reactive with catecholamine rich neurons in formaldehyde fixed tissue sections. May cross-react with dopamine, tryptamine and methoxytryptamine in liquid media tests, and carcinoid tumours.

## SELECT PRODUCT CITATIONS

1. Ranuh, R., et al. 2019. Effect of the probiotic *Lactobacillus plantarum* IS-10506 on BDNF and 5HT stimulation: role of intestinal microbiota on the gut-brain axis. *Iran. J. Microbiol.* 11: 145-150.
2. Guo, J., et al. 2022. Electroacupuncture attenuates post-inflammatory IBS-associated visceral and somatic hypersensitivity and correlates with the regulatory mechanism of Epac1-Piezo2 axis. *Front. Endocrinol.* 13: 918652.
3. Yu, W., et al. 2022. Pulmonary neuroendocrine cells sense succinate to stimulate myoepithelial cell contraction. *Dev. Cell* 57: 2221-2236.e5.
4. Chen, Z., et al. 2022. *Bacillus subtilis* promotes the release of 5-HT to regulate intestinal peristalsis in STC mice via bile acid and its receptor TGR5 pathway. *Dig. Dis. Sci.* 67: 4410-4421.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.