



The Ion Channel/GPCR Company

Human 5 HT_{1A} Serotonin Receptor Cell Line

Catalog #A601; Lot 893

SPECIFICATIONS:	Synonyms: HTR1A
	Host cell: CHO-K1
	Expressed gene: Genbank Accession Number NM_000524
	Mycoplasma Status: Negative (MycoAlert Kit)
	Packaging: Cryopreserved cells, 6 million cells per vial.
	Propagation media: Ham's F12, 10% dFBS, 1% NEAA, 400 ug/mL G418
	Stability: 12 passages of continuous culture (6 weeks at 2 passages/week)
	Storage Recommendation: Liquid nitrogen

BACKGROUND: Serotonin (5-hydroxytryptamine, 5-HT) exerts its many physiological effects through 13 distinct receptor subtypes in humans. These subtypes fall into seven structurally-defined classes (5HT₁ to 5HT₇). Among them, 5HT_{1a} receptors are expressed mainly in the CNS system where they induce neuronal inhibition and controls behaviour, such as sleep, food intake, thermoregulation, aggression, and anxiety. This receptor has been used as a target for developing drugs to treat anxiety and depression.

REPRESENTATIVE DATA:

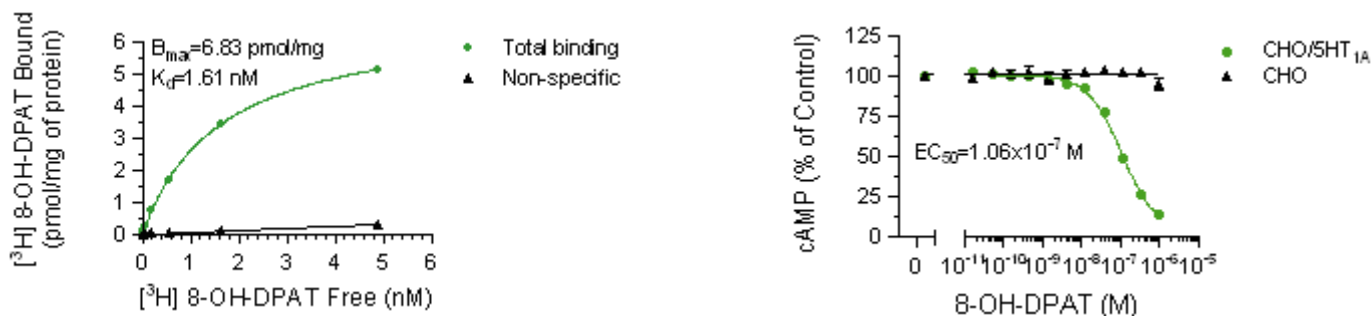


Figure 1 (left). Binding of [³H] 8-OH-DPAT to membranes from cells stably expressing the human 5-HT_{1A} receptor. Membranes from recombinant CHO-K1 cells expressing the human 5-HT_{1A} receptor were isolated and stored frozen. Radioligand binding studies were performed by incubating membranes with the indicated concentration of [³H] 8-OH-DPAT for 2 hours at 37°C in the dark, then filtering rapidly over GF/C filters which were then counted in an LSC. Data represent averages of duplicate determinations. 5-Hydroxytryptamine (10 μM) was used to define non-specific binding (black triangles).

Figure 2 (right). 8-OH-DPAT-mediated inhibition of intracellular cAMP accumulation. Cells stably expressing the 5HT_{1A} receptor (green) or untransfected CHO-K1 cells (black) were exposed to the indicated concentrations of 8-OH-DPAT for 30 min at 37°C with 10 μM forskolin and 1 mM IBMX. Intracellular cAMP was assayed using the HitHunter kit (DiscoverX).

REFERENCES:

Raymond, J.R., et al. (1999) The recombinant 5-HT_{1A} receptor: G protein coupling and signaling pathways. *Br J Pharmacol.* 127(8):1751-64.

Barnes, N.M. (1999) A review of central 5-HT receptors and their function. *Neuropharmacology* 38: 1083-1152.

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