

Ready-to-Assay 5-HT 4B Serotonin Receptor Frozen Cells

Art. ID SAF-HTS110RTA

Unit EA

Description

Millipore's Ready-to-Assay GPCR frozen cells are designed for simple, rapid calcium assays with no requirement for intensive cell culturing. Millipore has optimized the freezing conditions to provide cells with high viability and functionality post-thaw. The user simply thaws the cells and resuspends them in media, dispenses cell suspension into assay plates and, following over night recovery, assays for calcium response. 5-Hydroxytryptamine (5-HT, also commonly known as serotonin) is synthesized in enterochromaffin cells in the intestine and in serotonergic nerve terminals. In the periphery, 5-HT mediates gastrointestinal motility, platelet aggregation, and contraction of blood vessels. Many functions of the central nervous system are influenced by 5-HT, including sleep, motor activity, sensory perception, arousal and appetite. A family of 12 GPCRs and one ion channel mediate the biological effects of 5-HT (Hoyer et al., 1994). 5-HT₄ comprises at least 8 isoforms varying at the C-terminus, which are generated by alternative splicing. The expression and distribution of these splice variants differs among organs and tissues with many of them present in several tissues such as atrium, brain, and GI tract (Bockaert et al. 2004). To date, all isoforms have been shown to activate adenylyl cyclase in vitro, and no difference in signal transduction between C-terminal 5-HT₄ receptor variants has been demonstrated. 5-HT₄ receptors are of potential interest for the treatment of patients with GI motility disorders and Alzheimer's disease (De Maeyer et al. 2008, Lezoualc'h 2007). Millipore's cloned human 5HT₄B-expressing cell line is made in the Chem-1 host, which supports high levels of recombinant 5HT₄B expression on the cell surface and contains high levels of the promiscuous G protein Galpha15 to couple the receptor to the calcium signaling pathway. Thus, the cell line is an ideal tool for screening for agonists, antagonists and modulators at 5HT₄B Receptor.