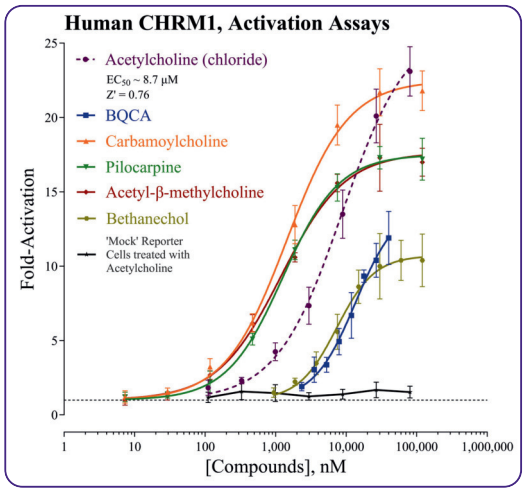
CHRM1 Receptor Assays

INDIGO's assays targeting the CHRM1 Receptor enables precise and reliable characterization of both activators and inhibitors, delivering high reproducibility with minimal lot-to-lot variability. Built on robust assay design, these platforms generate consistent, high-quality data that supports confident decision-making throughout discovery and optimization.

INDIGO assay workflows enable rapid screening of activators and inhibitors, providing actionable results in as little as 24 hours to accelerate lead identification and streamline drug development timelines, while seamlessly integrating into existing screening pipelines.

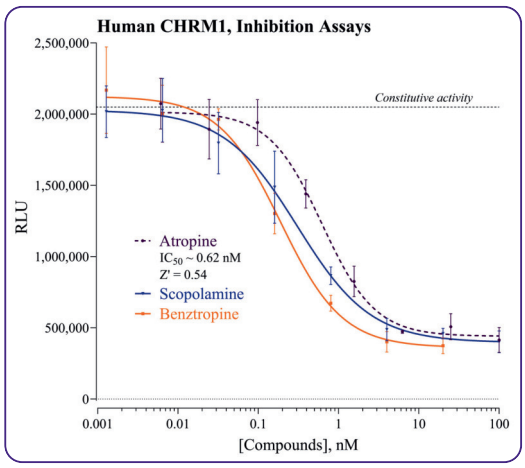
CHRM1 Activation Reporter Assay



	INDIGO Biosciences	COMPANY A	COMPANY B	COMPANY C
EC50 *(in nM)*	8.7	2.6	2.4	0.134
Assay Type	Luciferase	Calcium Flux	Calcium Flux	Luciferase
Pathway	NFAT/AP1	-	-	NFAT

IB4400 **CHRM1 Activation Reporter Assay Kit**

CHRM1 Inhibition Reporter Assay



	INDIGO Biosciences
IC50 *(in nM)*	0.62
Assay Type	Luciferase
Pathway	NFAT/AP1

IB4410 **CHRM1 Inhibition Reporter Assay Kit**

Want to learn more about our CHRM1 Receptor assays? Scan here for more information!

INDIGO Biosciences, Inc. | Phone: (814) 234-1919 | INDIGOBiosciences.com

Background

Muscarinic acetylcholine receptors are members of the G-protein-coupled receptor (GPCR) superfamily that respond to the endogenous neurotransmitter acetylcholine. They are involved in a wide range of processes in the central and peripheral nervous system, which makes them of interest as drug targets for conditions including Alzheimer's disease, schizophrenia, and drug addiction.

The muscarinic acetylcholine receptor subfamily is composed of five subtypes, known as M1-M5 and by their corresponding gene names (i.e., CHRM1 – CHRM5). The CHRM1 subtype is expressed in the cerebral cortex and hippocampus regions of the brain, pointing to its key role in cognitive function. Targeting a specific subtype has proved challenging due to the high degree of homology of the orthosteric binding site for acetylcholine.

Targeting the less conserved allosteric binding sites of CHRM1 have resulted in the development of selective activators of this receptor enabling the specific targeting of the M1 subtype. These opportunities for novel drug development ensure that M1 remains a viable therapeutic target.

The Assay System

INDIGO's CHRM1 Reporter Cells contain an engineered luciferase reporter gene functionally linked to tandem consensus sequences of NFAT genetic response elements upstream of a minimal promoter. Activated NFAT binds to these response elements to seed the formation of a complete transcription complex that drives luciferase gene expression.

Quantifying relative changes in luciferase activity in the treated reporter cells relative to the untreated reporter cells provides a sensitive surrogate measure of drug-induced changes in CHRM1 activity. Accordingly, the principal application of this reporter assay is in the screening of test compounds to quantify activating functional activities that they may exert against CHRM1, the coupled Ca+2·calcineurin or inhibiting NFAT signal transduction pathway.

Related Assays

- IB3500 **Human OXTR Reporter Assay Kit**
- IB4600 **Human DRD1 Reporter Assay Kit**
- IB1800 **Human NFAT Reporter Assay Kit**
- LCMA **Live Cell Multiplex Assay**
- IB4810 **Human AMY1R Reporter Assay Kit**
- IB4800 **Human AMY3R Reporter Assay Kit**
- IB3100 **Human ADRA1A Reporter Assay Kit**
- IB3200 **Human ADRB1 Reporter Assay Kit**