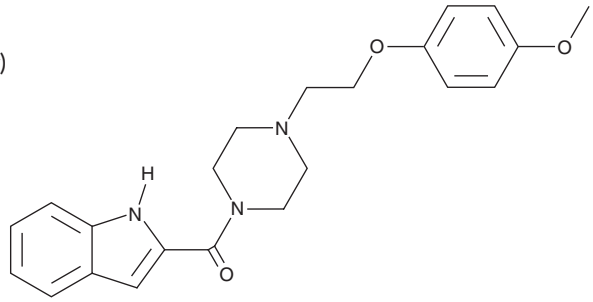
PRODUCT INFORMATION

ML-417

Item No. 36582

CAS Registry No.:	1386162-69-1
Formal Name:	1H-indol-2-yl[4-[2-(4-methoxyphenoxy) ethyl]-1-piperazinyl]-methanone
MF:	$C_{22}H_{25}N_3O_3$
FW:	379.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 218, 294 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

ML-417 is supplied as a solid. A stock solution may be made by dissolving the ML-417 in the solvent of choice, which should be purged with an inert gas. ML-417 is soluble in ethanol.

Description

ML-417 is a dopamine D_3 receptor agonist.[1] It is selective for the dopamine D_3 receptor over the dopamine D_2 receptor (EC_{50}s = 38 and >10,000 nM, respectively, in β-arrestin recruitment assays using CHO-K1 cells expressing the human receptors) and dopamine D_1, D_4, and D_5 receptors, as well as a panel of 45 G protein-coupled receptors (GPCRs), transporters, and ion channels at 10 µM. ML-417 inhibits forskolin-induced cAMP accumulation in HEK293 cells expressing the human dopamine D_3 receptor (IC_{50} = 86 nM) and induces phosphorylation of ERK in CHO-K1 cells expressing the human dopamine D_3 receptor (EC_{50} = 21 nM). It protects against cell death induced by the catecholaminergic neurotoxin 6-OHDA (Item No. 25330) in human induced pluripotent stem cell-derived (iPSC-derived) cells differentiated into dopaminergic neurons when used at a concentration of 50 nM.

Reference

1. Moritz, A.E., Free, R.B., Weiner, W.S., *et al.* Discovery, optimization, and characterization of ML417: A novel and highly selective D_3 dopamine receptor agonist. *J. Med. Chem.* **63(10),** 5526-5567 (2020).

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