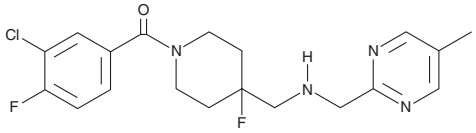
PRODUCT INFORMATION

F-15599

Item No. 46837

CAS Registry No.: 635323-95-4
Formal Name: (3-chloro-4-fluorophenyl)[4-fluoro-4-[[[(5-methyl-2-pyrimidinyl)methyl]amino]methyl]-1-piperidinyl]-methanone
Synonym: NLX 101
MF: $C_{19}H_{21}ClF_2N_4O$
FW: 394.9
Purity: ≥98%
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

F-15599 is supplied as a solid. A stock solution may be made by dissolving the F-15599 in the solvent of choice, which should be purged with an inert gas. F-15599 is soluble (≥10 mg/ml) in ethanol and DMSO.

Description

F-15599 is a post-synaptic-selective agonist of the serotonin (5-HT) receptor subtype 5-HT_{1A}.[1] It more potently stimulates [^{35}S]GTPγS binding to the $G\alpha_i$ subunit in HeLa cell membranes expressing the human 5-HT_{1A} receptor than to the $G\alpha_o$ subunit in rat hippocampal cell membranes (EC_{50}s = 109.7 and 851.1 nM, respectively).[2] F-15599 also more potently stimulates [^{35}S]GTPγS binding in rat prefrontal cortex membranes containing postsynaptic 5-HT_{1A} receptors than in rat dorsal raphe nucleus membranes containing presynaptic 5-HT_{1A} receptors (EC_{50}s = 63.1 and 380.2 nM, respectively). It reduces immobility in the forced swim test in rats at a minimal effective dose (MED) of 0.08 mg/kg but induces hypothermia, a sign of serotonin syndrome, at a MED of 0.63 mg/kg.[3] F-15599 reduces the incidence of apneas in a transgenic mouse model of Rett syndrome at 0.1 mg/kg and decreases the probability of audiogenic seizure-induced death in a transgenic mouse model of fragile X syndrome at 1.2-2.4 mg/kg.[4,5]

References

1. Maurel, J.L., Autin, J.M., Funes, P., *et al.* High-efficacy 5-HT_{1A} agonists for antidepressant treatment: A renewed opportunity. *J. Med. Chem.* **50(20)**, 5024-5033 (2007).
2. Newman-Tancredi, A., Martel, J.C., Assié, M.B., *et al.* Signal transduction and functional selectivity of F15599, a preferential post-synaptic 5-HT_{1A} receptor agonist. *Br. J. Pharmacol.* **56(2)**, 338-353 (2009).
3. Assié, M.B., Bardin, L., Auclair, A.L., *et al.* 15599, a highly selective post-synaptic 5-HT_{1A} receptor agonist: *in-vivo* profile in behavioural models of antidepressant and serotonergic activity. *Int. J. Neuropsychopharmacol.* 13(10), 1285-1298 (2010).
4. Levitt, E.S., Hunnicutt, B.J., Knopp, S.J., *et al.* A selective 5-HT_{1a} receptor agonist improves respiration in a mouse model of Rett syndrome. *J. Appl. Physiol.* **115(11)**, 1626-1633 (2013).
5. Tao, X., Newman-Tancredi, A., Varney, M.A., *et al.* Acute and repeated administration of NLX-101, a selective serotonin-1A receptor biased agonist, reduces audiogenic seizures in developing *Fmr1* knockout mice. *Neuroscience* **509**, 113-124 (2023).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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