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- Gefahrgutzuschlag
- Expressversand

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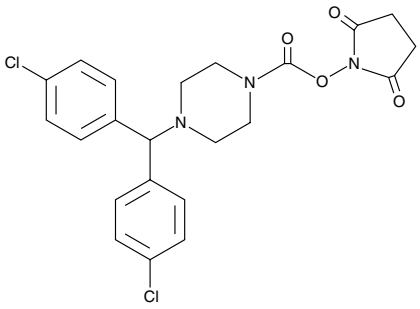
Product Information

MJN110

Item No. 17583

CAS Registry No.: 1438416-21-7
Formal Name: 4-[*bis*(4-chlorophenyl)methyl]-1-piperazinecarboxylic acid, 2,5-dioxo-1-pyrrolidinyl ester
Synonym: 2,5-Dioxopyrrolidin-1-yl 4-[*bis*(4-chlorophenyl)methyl]piperazine-1-carboxylate
MF: $C_{22}H_{21}Cl_2N_3O_4$
FW: 462.3
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 234 nm



Laboratory Procedures

For long term storage, we suggest that MJN110 be stored as supplied at -20°C. It should be stable for at least two years.

MJN110 is supplied as a crystalline solid. A stock solution may be made by dissolving the MJN110 in the solvent of choice. MJN110 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of MJN110 in these solvents is approximately 0.25, 30, and 25 mg/ml, respectively.

MJN110 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Endocannabinoids such as 2-arachidonoyl glycerol (2-AG; Item No. 62160) and arachidonoyl ethanolamide (AEA; Item No. 90050) are biologically active lipids that are involved in a number of synaptic processes including activation of cannabinoid receptors. Monoacylglycerol lipase (MAGL) is a serine hydrolase responsible for the hydrolysis of 2-AG to arachidonic acid (Item No. 90010) and glycerol, thus terminating its biological function. MJN110 is an N-hydroxysuccinimidyl carbamate that inhibits MAGL (IC_{50} = 9.1 nM) and to a lesser extent ABHD6 with potent selectivity over FAAH (IC_{50} > 10 µM) and other brain serine hydrolases.[1] It can inhibit 2-AG hydrolysis (IC_{50} = 2.1 nM) with no effect on AEA hydrolysis up to 50 µM.[1] At 5 mg/kg, MJN110 has been shown to alleviate mechanical allodynia in a rat model of diabetic neuropathy.[1]

Reference

1. Niphakis, M.J., Cognetta, A.B.I., Chang, J.W., *et al.* Evalulation of NHS carbamates as a potent and selective class of endocannabinoid hydrolase inhibitors. *ACS Chem. Neurosci.* **4**, 1322-1332 (2013).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/17583

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