PRODUCT INFORMATION

KML29

Item No. 11777

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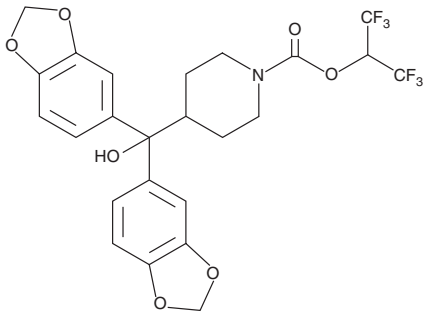
CAS Registry No.:	1380424-42-9
Formal Name:	1,1,1,3,3,3-hexafluoropropan-2-yl 4-(*bis*(benzo[d][1,3]dioxol-5-yl)(hydroxy)methyl)piperidine-1-carboxylate
MF:	$C_{24}H_{21}F_6NO_7$
FW:	549.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 205, 287 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

KML29 is supplied as a crystalline solid. A stock solution may be made by dissolving the KML29 in the solvent of choice. KML29 is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 2 mg/ml.

Description

Endocannabinoids such as 2-arachidonoyl glycerol (2-AG) and arachidonoyl ethanolamide 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 and glycerol, thus terminating its biological function. KML29 is an O-hexafluoroisopropyl carbamate analog of JZL 184 (Item No. 13158) that potently and selectively inhibits MAGL (IC_{50}s = 15, 43, and 5.9 nM in mouse, rat, and human brain proteomes, respectively) over FAAH (IC_{50}s >50 µM).[1] At 5-20 mg/kg, KML29 dose-dependently blocks mouse brain MAGL activity *in vivo*, without any measurable effect on FAAH activity.[1] As a second generation MAGL inhibitor, KML29 supersedes the low-level cross reactivity that JZL 184 displays for FAAH yet still maintains comparable potency to its parent compound.

Reference

1. Chang, J.W., Niphakis, M.J., Lum, K.M., *et al*. Highly selective inhibitors of monoacylglycerol lipase bearing a reactive group that is bioisosteric with endocannabinoid substrates. *Chem. Biol.* **19**, 1-10 (2012).

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