

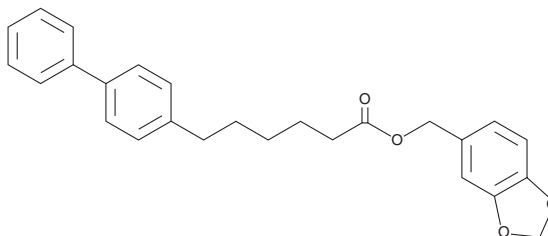
PRODUCT INFORMATION



Monoacylglycerol Lipase Inhibitor 21

Item No. 16964

CAS Registry No.: 1643657-35-5
Formal Name: [1,1'-biphenyl]-4-hexanoic acid,
1,3-benzodioxol-5-ylmethyl ester
Synonyms: MAGL Inhibitor 21,
MGL Inhibitor 21
MF: C₂₆H₂₆O₄
FW: 402.5
Purity: ≥98%
UV/Vis.: λ_{max}: 250 nm
Supplied as: A crystalline 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

Monoacylglycerol lipase (MAGL) inhibitor 21 is supplied as a crystalline solid. A stock solution may be made by dissolving the MAGL inhibitor 21 in the solvent of choice. MAGL inhibitor 21 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of MAGL inhibitor 21 in ethanol is approximately 0.5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

MAGL inhibitor 21 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.

Description

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 (CB) receptors. Fatty acid amide hydrolase (FAAH) and MAGL mediate the hydrolysis of AEA and 2-AG, respectively. MAGL inhibitor 21 selectively binds to MAGL ($K_i = 0.4 \mu\text{M}$) and reversibly blocks the enzyme's activity in mouse brain with an IC_{50} value of $0.18 \mu\text{M}$.¹ Comparatively, MAGL inhibitor 21 is reported to inhibit FAAH activity in mouse brain with an IC_{50} value of $59 \mu\text{M}$.¹ This compound does not bind CB_1 or CB_2 receptors and does not inhibit the related serine hydrolases ABHD6 and ABHD12 (K_i s $> 10 \mu\text{M}$).¹ In a mouse model of multiple sclerosis, 5 mg/kg of MAGL inhibitor 21 has been used to ameliorate progression of the disease without producing detrimental CB_1 -mediated effects.¹

Reference

1. Hernández-Torres, G., Cipriano, M., Hedén, E., *et al.* A reversible and selective inhibitor of monoacylglycerol lipase ameliorates multiple sclerosis. *Angew. Chem. Int. Ed. Engl.* (2014).

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.

WARRANTY AND LIMITATION OF REMEDY
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