
Product Data Sheet

Product Name: MAGL-IN-4

Cat. No.: GC63055

Chemical Properties

Cas. No. 2135785-20-3

Formula $C_{18}H_{21}ClN_2O_4$

M.Wt 364.82

Solubility DMSO : 100 mg/mL (274.11 mM; Need ultrasonic)

Storage

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

Background

MAGL-IN-4 is an orally active, selective and reversible monoacylglycerol lipase (MAGL) inhibitor with an IC₅₀ of 6.2 nM. MAGL-IN-4 can penetrate the blood-brain barrier (BBB). MAGL-IN-4 enhances endocannabinoid signaling mostly by the increase in the level of 2-AG via selective MAGL inhibition in the brain[1].

MAGL-IN-4 (compound 4f) shows a high LLE (5.9), a logD of 2.3 for MAGL[1]. MAGL-IN-4 exhibits no inhibition toward the closely related serine hydrolases (FAAH and ABHD6; all IC₅₀>10000 nM). MAGL-IN-4 has no significant binding potentials to cannabinoid receptors (CB1: 19% and CB2: 5% at 10 μM), and low hERG liability (14.4% inh. at 10 μM, manual patch clamp, without BSA)[1].

MAGL-IN-4 (compound 4f; 0.1-10 mg/kg; oral; single dose) results in a significant elevation in the level of 2-AG and reduction in that of arachidonic acid (AA) from 0.3 mg/kg in C57BL/6J mice[1].

[1]. Shuhei Ikeda, et al. Design and Synthesis of Novel Spiro Derivatives as Potent and Reversible Monoacylglycerol Lipase (MAGL) Inhibitors: Bioisosteric Transformation from 3-Oxo-3,4-dihydro-2 H-benzo[b][1,4]oxazin-6-yl Moiety. J Med Chem. 2021 Aug 12;64(15):11014-11044.

Caution: Product has not been fully validated for medical applications. For research use only.

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