PRODUCT INFORMATION

2-Arachidonyl Glycerol ether
Item No. 62165

CAS Registry No.: 222723-55-9
Formal Name: 5Z,8Z,11Z,14Z-eicosatetraen-2-glyceryl ether
Synonyms: 2-AG ether, Noladin
MF: C23H40O3
FW: 364.6
Purity: ≥98%
Supplied as: A solution in ethanol
Storage: -80°C
Stability: ≥6 months

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

Laboratory Procedures

2-Arachidonyl glycerol ether (2-AG ether) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 2-AG ether in these solvents is approximately 15 and 20 mg/ml, respectively.

2-AG ether is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 2-AG ether should be diluted with the aqueous buffer of choice. 2-AG ether has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method.

Description

2-AG ether selectively binds to cannabinoid (CB) receptor 1 (Kᵢₛ = 21.2 and >3,000 nM for CB₁ and CB₂, respectively, in a radioligand binding assay).¹ It is a potent and selective agonist of CB₁ and GPR55 with EC₅₀ values of 10, 37, and >30,000 nM for CB₁, GPR55, and CB₂, respectively.² 2-AG ether displays the typical tetrad of CB activities in mice.¹ It is more chemically stable than 2-AG (Item No. 62160), with an endogenous half-life of hours rather than minutes.³ However, it is at least 10-fold less potent than 2-AG in eliciting typical CB₁-mediated responses.⁴ 2-AG ether elicits modest reductions in intraocular pressure in rabbits when administered at doses exceeding 50 µg per eye.³ It increases aqueous humor outflow via the CB₁ receptor in the trabecular meshwork.⁵ Administration of 2-AG ether to the nucleus accumbens (0.0625-1 µg) increases dietary intake and enhances fat consumption in rats given access to both high-carbohydrate and high-fat diets.⁶

References