

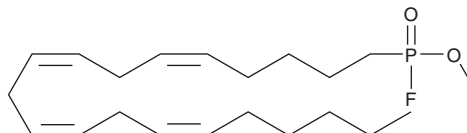
PRODUCT INFORMATION



Methyl Arachidonyl Fluorophosphonate

Item No. 70660

CAS Registry No.: 188404-10-6
Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenyl-phosphonofluoridic acid, methyl ester
Synonym: MAFP
MF: C₂₁H₃₆FO₂P
FW: 370.5
Purity: ≥98%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Methyl arachidonyl fluorophosphonate (MAFP) is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of MAFP in ethanol is approximately 3.5 mg/ml and approximately 3 mg/ml in DMSO and DMF.

For maximum solubility in aqueous buffers, evaporate the methyl acetate and dissolve in ethanol. The ethanolic solution of MAFP should be diluted with the aqueous buffer of choice. MAFP has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method.

Description

MAFP is an inhibitor of monoacylglycerol lipase (MAGL) and fatty acid amide hydrolase (FAAH; IC₅₀s = 26 and 0.33 nM, respectively).¹ It is also an irreversible inhibitor of cytosolic phospholipase A₂ (cPLA₂), as well as calcium-independent PLA₂ (iPLA₂; IC₅₀ = 500 nM).²⁻⁴ MAFP inhibits A23187-induced arachidonic acid release from human platelets with an IC₅₀ value of 600 nM.²

References

1. Matuszak, N., Muccioli, G.G., Labar, G., *et al.* Synthesis and in vitro evaluation of N-substituted maleimide derivatives as selective monoglyceride lipase inhibitors. *J. Med. Chem.* **52**(23), 7410-7420 (2009).
2. Huang, Z., Liu, S., Street, I., *et al.* Methyl arachidonyl fluorophosphonate, a potent irreversible cPLA₂ inhibitor, blocks the mobilization of arachidonic acid in human platelets and neutrophils. *Mediators Inflamm.* **3**, 307-308 (1994).
3. Lio, Y.C., Reynolds, L.J., Balsinde, J., *et al.* Irreversible inhibition of Ca²⁺-independent phospholipase A₂ by methyl arachidonyl fluorophosphonate. *Biochim Biophys. Acta.* **1302**(1), 55-60 (1996).
4. Balsinde, J. and Dennis, E.A. Distinct roles in signal transduction for each of the phospholipase A₂ enzymes present in P388D₁ macrophages. *J. Biol. Chem.* **271**(12), 6758-6765 (1996).

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.

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