

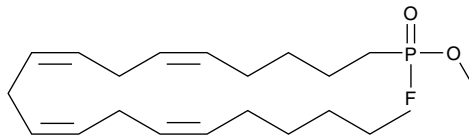
Product Information



Methyl Arachidonyl Fluorophosphonate

Catalog 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%
Stability: ≥1 year at -80°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that Methyl Arachidonyl Fluorophosphonate (MAFP) be stored as supplied at -80°C. It should be stable for at least one year.

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 purged with an inert gas can be used. The solubility of MAFP in these solvents is approximately 3 mg/ml.

MAFP is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 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. We do not recommend storing the aqueous solution for more than one day.

MAFP is a selective, active-site directed, irreversible inhibitor of cPLA₂ and iPLA₂.¹⁻³ It inhibits A23187-induced arachidonic acid release from human platelets with an IC₅₀ value of 0.6 μM.¹ The IC₅₀ value for inhibition of iPLA₂ from P388D1 cells is 0.5 μM.² MAFP is a potent inhibitor of fatty acid amide hydrolase, exhibiting an IC₅₀ value of 2.5 nM. MAFP also binds to the CB₁ receptor in rat brain membrane preparations. The IC₅₀ values for MAFP and arachidonyl ethanolamide in this assay are 20 and 40 nM, respectively.⁴

References

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- 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**, 6758-6765 (1996).
- Deutsch, D.G., Omeir, R., Arreaza, G., *et al.* Methyl arachidonyl fluorophosphonate: A potent irreversible inhibitor of anandamide amidase. *Biochem. Pharmacol.* **53**, 255-260 (1997).

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