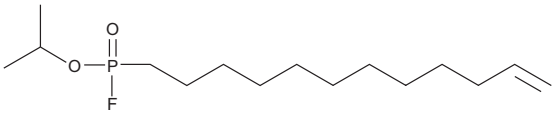
PRODUCT INFORMATION

Isopropyl dodec-11-enylfluorophosphonate

Item No. 11613

CAS Registry No.: 623114-64-7
Formal Name: 11-dodecenyl-phosphonofluoridic acid, 1-methylethyl ester
MF: $C_{15}H_{30}FO_2P$
FW: 292.4
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

For long term storage, we suggest that isopropyl dodec-11-enylfluorophosphonate be stored as supplied at -20°C. It should be stable for at least one year.

Isopropyl dodec-11-enylfluorophosphonate 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 isopropyl dodec-11-enylfluorophosphonate in ethanol and DMSO is approximately 5 mg/ml and approximately 12.5 mg/ml in DMF.

Isopropyl dodec-11-enylfluorophosphonate 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

Isopropyl dodec-11-enylfluorophosphonate is an organophosphorus ester that antagonizes the central cannabinoid (CB_1) receptor and inhibits FAAH with similar potencies (IC_{50}s = 2 nM).[1,2] At 30 mg/kg, this compound inhibits 99% of the brain neuropathy target esterase-lysophospholipase, which is attributed to causing delayed toxicity in mice.[1]

References

1. Segall, Y., Quistad, G.B., Sparks, S.E., *et al.* Toxicological and structural features of organophosphorus and organosulfur cannabinoid CB_1 receptor ligands. *Toxicol. Sci.* **76**, 131-137 (2003).
2. Segall, Y., Quistad, G.B., and Casida, J.E. Cannabinoid CB_1 receptor chemical affinity probes: Methods suitable for preparation of isopropyl [11,12-^{3}H]dodecylfluorophosphonate and [11,12-^{3}H] dodecanesulfonyl fluoride. *Synthetic Commun.* **33(12)**, 2151-2159 (2003).

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