

PRODUCT INFORMATION



IDFP

Item No. 10215

CAS Registry No.: 615250-02-7

Formal Name: P-dodecyl-phosphonofluoridic acid,
1-methylethyl ester

Synonym: Isopropyl Dodecylfluorophosphonate

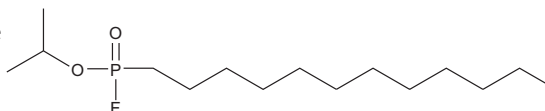
MF: $C_{15}H_{32}FO_2P$

FW: 294.4

Purity: $\geq 98\%$

Stability: ≥ 1 year at $-20^\circ C$

Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that IDFP be stored as supplied at $-20^\circ C$. It should be stable for at least one year.

IDFP 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 IDFP in these solvents is approximately 10 mg/ml.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that 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

The endocannabinoids, 2-arachidonoyl glycerol (2-AG) and arachidonoyl ethanolamide (AEA), are biologically active lipids that regulate diverse neurological and metabolic functions by activating the cannabinoid receptors, central cannabinoid (CB_1) and peripheral cannabinoid (CB_2). Monoacylglycerol lipase (MAGL) and fatty acid amide hydrolase (FAAH) hydrolyze 2-AG and AEA, respectively, thus terminating their biological function. IDFP is an organophosphorus compound that dually inhibits MAGL and FAAH with IC_{50} values of 0.8 and 3 nM, respectively.¹ At 10 mg/kg, IDFP elevates brain levels of 2-AG and AEA more than 10-fold, and decreases levels of arachidonic acid by a similar magnitude.¹

Reference

1. Nomura, D.K., Blankman, J.L., Simon, G.M., *et al.* Activation of the endocannabinoid system by organophosphorus nerve agents. *Nat. Chem. Bio.* (2008).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM