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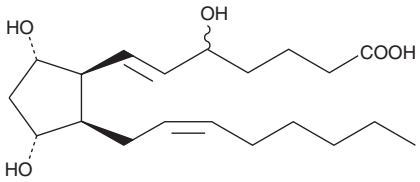
PRODUCT INFORMATION

(±)5-iPF$_{2\alpha}$-VI

Item No. 16300

CAS Registry No.:	179094-11-2
Formal Name:	(8β)-5,9α,11α-trihydroxy-prosta-6E,14Z-dien-1-oic acid
Synonym:	iPF$_{2\alpha}$-I, Isoprostane F$_{2\alpha}$-I, 5-*iso* PGF$_{2\alpha}$-VI, 5-*iso* Prostaglandin F$_{2\alpha}$-VI
MF:	$C_{20}H_{34}O_5$
FW:	354.5
Purity:	≥95%
Supplied as:	A solution in ethanol
Storage:	-20°C
Stability:	≥1 year



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

Laboratory Procedures

(±)5-iPF$_{2\alpha}$-VI 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 ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of (±)5-iPF$_{2\alpha}$-VI in these solvents is approximately 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of (±)5-iPF$_{2\alpha}$-VI is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of (±)5-iPF$_{2\alpha}$-VI in PBS (pH 7.2) is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Isoprostanes are prostaglandin (PG)-like products of free-radical induced lipid peroxidation.[1] Although the isoprostanes derived from arachidonic acid are the best characterized, many other polyunsaturated fatty acids can form isoprostanes.[2] (±)5-iPF$_{2\alpha}$-VI is one of dozens of possible stereo- and regioisomeric isoprostanes which can be formed from arachidonic acid. To date, the most extensively studied of these is 8-isoprostane (8-*epi*-PGF$_{2\alpha}$, iPF$_{2\alpha}$-III).[3,4] However, 8-isoprostane is a minor isoprostane constituent when compared to some of the other isomers which form in natural conditions of oxidative stress.[5] (±)5-iPF$_{2\alpha}$-VI is an isoprostane from the unique Type VI class of isoprostanes. This class has been shown to be one of the major isoprostane products, in contrast to 8-isoprostane. In addition to being produced in greater abundance than 8-isoprostane, Type VI isoprostanes form internal lactones, which facilitates their extraction and purification from biological samples.[5-8]

References

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