Product Information

8,12-*iso*-iPF$_{2\alpha}$-VI-1,5-lactone

Item No. 10312

Formal Name: 6-((E)-2-((1R,2S,3R,5S)-3,5-dihydroxy-2-((Z)-oct-2-enyl) cyclopentyl)vinyl)tetrahydro-2H-pyran-2-one

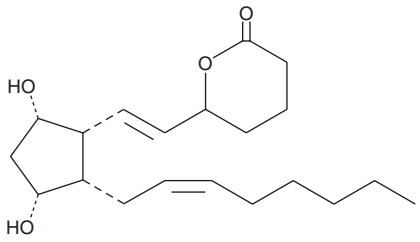
MF: $C_{20}H_{32}O_4$

FW: 336.2

Purity: ≥98%

Stability: ≥1 year at -80°C

Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that 8,12-*iso*-iPF$_{2\alpha}$-VI-1,5- lactone be stored as supplied at -80°C. It should be stable for at least one year.

8,12-*iso*-iPF$_{2\alpha}$-VI-1,5- lactone 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 8,12-*iso*-iPF$_{2\alpha}$-VI-1,5- lactone in these solvents is approximately 100 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 8,12-*iso*-iPF$_{2\alpha}$-VI-1,5- lactone is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 8,12-*iso*-iPF$_{2\alpha}$-VI-1,5- lactone in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

F_2 isoprostanes (F_2-iPs) are thought to arise from the free radical-mediated peroxidation of phospholipid-bound arachidonic acid.[1] They are cleaved, presumably by an unidentified phospholipase A_2, and are found in the circulation and the urine. 8,12-*iso*-iPF$_{2\alpha}$-VI-1,5-lactone is a racemic mixture of the lactone form of the free acid, 8,12-*iso*- iPF$_{2\alpha}$-VI. Previously called IPF$_{2\alpha}$-I, the free acid form, iPF$_{2\alpha}$-VI, is the most abundant F_2-iP regioisomer measured in the urine of rats treated with CCl_4 to induce lipid peroxidation.[2,3] iPF$_{2\alpha}$-VI is the only regioisomer that undergoes lactonization, and this occurs slowly *in vivo* or can be driven chemically.[4] The less polar lactone is readily separated from the free acid forms of iPF$_{2\alpha}$.[4] While the level of iPF$_{2\alpha}$-VI in plasma, urine, and organs is used as a biomarker for oxidative stress, some F_2-iPs also evoke significant biological effects.[5-7] It is not known if 8,12-*iso*-iPF$_{2\alpha}$-VI-1,5-lactone has important physiological effects.

References

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5. Practico, D., Barry, O.P., Lawson, J.A., *et al. Proc. Natl. Acad. Sci. USA* **95**, 3449-3454 (1998).
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Related Products

iPF$_{2\alpha}$-IV - Item No. 16230 • 5-iPF$_{2\alpha}$-VI - Item No. 16300 • iPF$_{2\alpha}$-IV-d$_4$ - Item No. 316230 • iPF$_{2\alpha}$-VI-d$_4$ - Item No. 316300 • 5-iPF$_{2\alpha}$-VI-d$_{11}$ - Item No. 10006654 • 8,12-*iso*-iPF$_{2\alpha}$-VI-d$_{11}$ - Item No. 10006878

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