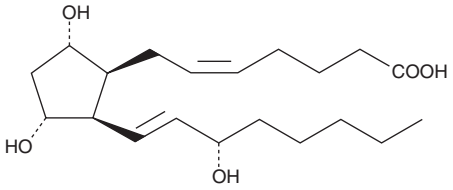
# Product Information

## 8-*iso*-Prostaglandin $F_{2\alpha}$ Quant-PAK

*Catalog No. 10007652*

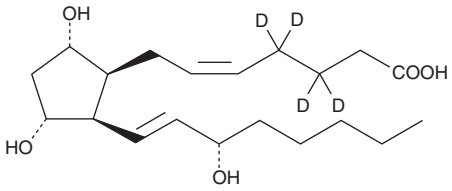
### 8-*iso*-Prostaglandin $F_{2\alpha}$

**CAS Registry No.:** 27415-26-5
**Formal Name:** 9α,11α,15S-trihydroxy-(8β)-prosta-5Z,13E-dien-1-oic acid
**Synonyms:** 8-*epi* Prostaglandin $F_{2\alpha}$; 8-Isoprostane
**MF:** $C_{20}H_{34}O_5$
**FW:** 354.5
**Purity:** ≥99%
**Stability:** ≥2 years at -20°C
**Supplied as:** A crystalline solid




### 8-*iso*-Prostaglandin $F_{2\alpha}$-$d_4$

**CAS Registry No.:** 211105-40-7
**Formal Name:** 9α,11α,15S-trihydroxy-(8β)-prosta-5Z,13E-dien-1-oic-3,3,4,4-$d_4$ acid
**Synonyms:** 8-*epi* Prostaglandin $F_{2\alpha}$-$d_4$; 8-Isoprostane-$d_4$
**MF:** $C_{20}H_{30}D_4O_5$
**FW:** 358.5
**Chemical Purity:** ≥98%
**Deuterium Incorporation:** ≤1% $d_0$
**Stability:** ≥1 year at -20°C
**Supplied as:** A solution in methyl acetate




This 8-*iso*-prostaglandin $F_{2\alpha}$ (8-*iso*-$PGF_{2\alpha}$) Quant-PAK contains 50 µg of 8-*iso*-$PGF_{2\alpha}$-$d_4$ and 2-4 mg of 8-*iso*-$PGF_{2\alpha}$ (please see the vial for exact amount and concentration). For long term storage, we suggest that 8-*iso*-$PGF_{2\alpha}$ and 8-*iso*-$PGF_{2\alpha}$-$d_4$ be stored as supplied at -20°C. They should be stable for at least one year.

8-*iso*-$PGF_{2\alpha}$ is supplied as a crystalline solid. A stock solution may be made by dissolving the 8-*iso*-$PGF_{2\alpha}$ in an organic solvent purged with an inert gas. 8-*iso*-$PGF_{2\alpha}$ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 8-*iso*-$PGF_{2\alpha}$ in these solvents is approximately 100 mg/ml.

8-*iso*-$PGF_{2\alpha}$-$d_4$ 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-*iso*-$PGF_{2\alpha}$-$d_4$ in these solvents is approximately 100 mg/ml.

8-*iso*-$PGF_{2\alpha}$-$d_4$ contains four deuterium atoms at the 3, 3', 4, and 4' positions. It is intended for use as an internal standard for the quantification of 8-*iso*-$PGF_{2\alpha}$ by GC- or LC-mass spectrometry. The accuracy of the sample weight in the 8-*iso*-$PGF_{2\alpha}$-$d_4$ vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled 8-*iso*-$PGF_{2\alpha}$, with the precise weight indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

8-*iso* $PGF_{2\alpha}$ circulates in human plasma in two distinct forms - esterified in phospholipids and as the free acid. The ratio of these two forms is approximately 2:1, with a total plasma 8-*iso* $PGF_{2\alpha}$ level of about 150 pg/ml in normal volunteers.[4] In normal human urine, 8-*iso* $PGF_{2\alpha}$ levels are about 180-200 pg/mg of creatinine.[1,2] 8-*iso* $PGF_{2\alpha}$ is a weak TP receptor agonist in vascular smooth muscle.[5] Conversely, 8-iso $PGF_{2\alpha}$ inhibits platelet aggregation induced by U-46619 ($10^{-6}$ M) and I-BOP ($3 \times 10^{-7}$ M) with $IC_{50}$ values of $1.6 \times 10^{-6}$ M and $1.8 \times 10^{-6}$ M, respectively.[3]

### References


1. Morrow, J.D., Hill, K.E., Burk, R.F., *et al. Proc. Natl. Acad. Sci. USA* **87,** 9383-9387 (1990).
2. Morrow, J.D., Harris, T.M., Roberts, L.J., II. *Anal. Biochem.* **184,** 1-10 (1990).
3. Morrow, J.D., Minton, T.A., Roberts, L.J., II. *Prostaglandins* **44,** 155-163 (1992).
4. Morrow, J.D., Frei, B., Longmire, A.W., *et al. N. Engl. J. Med.* **332**, 1198-1203 (1995).
5. Kiriyama, M., Ushikubi, F., Kobayashi, T., *et al. Br. J. Pharmacol.* **122**, 217-224 (1997).


### Related Products

8-*iso* Prostaglandin $F_{2\alpha}$ - Cat. No. 16350 • 8-*iso* Prostaglandin $F_{2\alpha}$-$d_4$ - Cat. No. 316350 • 6-keto Prostaglandin $F_{1\alpha}$ Quant-PAK - Cat. No. 10006830 • Prostaglandin $A_2$ Quant-PAK - Cat. No. 10006840 • Prostaglandin $B_2$ Quant-PAK - Cat. No. 10006841 • Prostaglandin $D_1$ Quant-PAK - Cat. No. 10006842 • Prostaglandin $D_2$ Quant-PAK - Cat. No. 10006843 • Prostaglandin $E_1$ Quant-PAK - Cat. No. 10006844 • 13,14-dihydro Prostaglandin $E_1$ Quant-PAK - Cat. No. 10006845 • Prostaglandin $E_2$ Quant-PAK - Cat. No. 10006846 • Prostaglandin $F_{2\alpha}$ Quant-PAK - Cat. No. 10006848 • 15-deoxy-$\Delta^{12,14}$-Prostaglandin $J_2$ Quant-PAK - Cat. No. 10006850

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