# PRODUCT INFORMATION

## Fluprostenol-$d_4$

*Item No. 316767*

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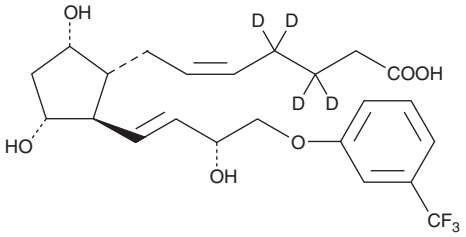
| **Formal Name:** | 9α,11α,15R-trihydroxy-16-(3-(trifluoromethyl)phenoxy)-17,18,19,20-tetranor-prosta-5Z,13E-dien-1-oic-3,3,4,4-$d_4$ acid |
| **Synonym:** | 16-m-trifluoromethylphenoxy tetranor Prostaglandin $F_{2\alpha}$-$d_4$ |
| **MF:** | $C_{23}H_{25}D_4F_3O_6$ |
| **FW:** | 462.5 |
| **Chemical Purity:** | ≥98% (Fluprostenol) |
| **Deuterium Incorporation:** | ≥99% deuterated forms ($d_1$-$d_4$); ≤1% $d_0$ |
| **UV/Vis.:** | $\lambda_{max}$: 222, 280 nm |
| **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

Fluprostenol-$d_4$ is intended for use as an internal standard for the quantification of Fluprostenol (Item No. 16768) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Fluprostenol-$d_4$ 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 fluprostenol-$d_4$ in these solvents is approximately 100 mg/ml.

### Description

Fluprostenol-$d_4$ contains four deuterium atoms at the 3, 3', 4, and 4' positions. Fluprostenol is a metabolically stable analog of prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$) with potent FP receptor agonist activity.[1,2] It inhibits $PGF_{2\alpha}$ binding to human and rat FP receptors with $IC_{50}$ values of 3.5 and 7.5 nM, respectively.[1,2] Fluprostenol is a much more potent luteolytic agent than $PGF_{2\alpha}$ in rats with a minimum fully effective dose of 270 g/kg to terminate pregnancy.[3] It is also an effective inhibitor of rat adipose precursor differentiation in primary cultures with an $IC_{50}$ value of 3-10 x $10^{-11}$ M.[4]

### References


1. Dukes, M., Russell, W., and Walpole, A.L. Potent luteolytic agents related to prostaglandin $F_{2\alpha}$. *Nature* **250 (464)**, 330-331 (1974).
2. Lake, S., Gullberg, H., Wahlqvist, J., *et al.* Cloning of the rat and human prostaglandin $F_{2\alpha}$ receptors and the expression of the rat prostaglandin $F_{2\alpha}$ receptor. *FEBS Lett.* **355(3)**, 317-325 (1994).
3. Abramovitz, M., Boie, Y., Nguyen, T., *et al.* Cloning and expression of a cDNA for the human prostanoid FP receptor. *J. Biol. Chem.* **269(4)**, 2632-2636 (1994).
4. Serrero, G. and Lepak, N.M. Prostaglandin $F_{2\alpha}$ receptor (FP receptor) agonists are potent adipose differentiation inhibitors for primary culture of adipocyte precursors in defined medium. *Biochem. Biophys. Res. Commun.* **233(1)**, 200-202 (1997).





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