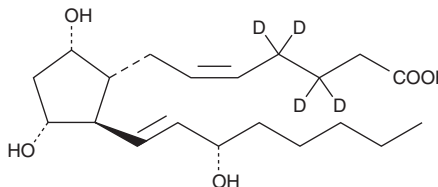


# PRODUCT INFORMATION



## Prostaglandin F<sub>2α</sub>-d<sub>4</sub> Item No. 316010

**CAS Registry No.:** 34210-11-2  
**Formal Name:** 9α,11α,15S-trihydroxy-prosta-5Z,13E-dien-1-oic-3,3,4,4-d<sub>4</sub> acid  
**Synonyms:** Dinoprost-d<sub>4</sub>, PGF<sub>2α</sub>-d<sub>4</sub>  
**MF:** C<sub>20</sub>H<sub>30</sub>D<sub>4</sub>O<sub>5</sub>  
**FW:** 358.5  
**Chemical Purity:** ≥98%  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solution in methyl acetate  
**Storage:** -20°C  
**Stability:** As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly



### Laboratory Procedures

Prostaglandin F<sub>2α</sub>-d<sub>4</sub> (PGF<sub>2α</sub>-d<sub>4</sub>) 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 PGF<sub>2α</sub> (Item No. 16010) by GC- or LC-mass spectrometry (MS).

PGF<sub>2α</sub>-d<sub>4</sub> 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 PGF<sub>2α</sub>-d<sub>4</sub> in these solvents is approximately 100 mg/ml.

PGF<sub>2α</sub>-d<sub>4</sub> is used as an internal standard for the quantification of PGF<sub>2α</sub> by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the weight indicated on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard PGF<sub>2α</sub> by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

### Description

PGF<sub>2α</sub> is a widely distributed PG occurring in many species.<sup>1-3</sup> It causes contraction of vascular, bronchial, intestinal, and myometrial smooth muscle, and also exhibits potent luteolytic activity.<sup>1</sup> PGF<sub>2α</sub> exerts its receptor mediated physiological activity at 50-100 nM.<sup>1</sup> Maximal ovine myometrial contraction can be achieved at 125 nM PGF<sub>2α</sub> *in vitro*.<sup>4</sup>

### References

1. Samuelsson, B., Goldyne, M., Granström, E., *et al. Annu. Rev. Biochem.* **47**, 997-1029 (1978).
2. Speroff, L. and Ramwell, P.W. *Am. J. Obstet. Gynecol.* **107**, 1111-1130 (1970).
3. Watanabe, K., Iguchi, Y., Iguchi, S., *et al. Proc. Natl. Acad. Sci. USA* **83**, 1583-1587 (1986).
4. Crankshaw, D.J. and Gaspar, V. *J. Reprod. Fertil.* **103**, 55-61 (1995).

#### 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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