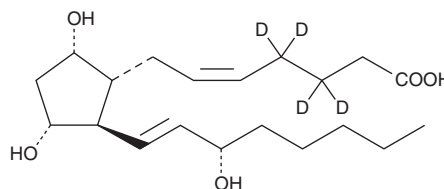


# PRODUCT INFORMATION



## Prostaglandin F<sub>2α</sub>-d<sub>4</sub> MaxSpec<sup>®</sup> Standard Item No. 10007275

**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  
**Purity:** ≥95%  
**Supplied as:** A solution in methyl acetate; in a deactivated glass ampule  
**Concentration:** 10 µg/ml (nominal); see certificate of analysis for verified concentration  
**Storage:** -20°C  
**Stability:** ≥2 years; *Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.*  
**Special Conditions:** Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.



### Description

Prostaglandin F<sub>2α</sub>-d<sub>4</sub> (PGF<sub>2α</sub>-d<sub>4</sub>) is intended for use as an internal standard for the quantification of PGF<sub>2α</sub> (Item No. 16010) by GC- or LC-MS. PGF<sub>2α</sub> is a widely distributed prostaglandin occurring in many species.<sup>1-3</sup> It causes contraction of vascular, bronchial, intestinal, and myometrial smooth muscle, and also exerts potent luteolytic activity.<sup>1</sup> PGF<sub>2α</sub> exhibits 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>

PGF<sub>2α</sub>-d<sub>4</sub> MaxSpec<sup>®</sup> standard is a quantitative grade standard of PGF<sub>2α</sub>-d<sub>4</sub> (Item No. 316010) that has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. This PGF<sub>2α</sub>-d<sub>4</sub> MaxSpec<sup>®</sup> standard is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product.

**Note:** The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.

### References

1. Samuelsson, B., Goldyne, M., Granström, E., *et al.* Prostaglandins and thromboxanes. *Annu. Rev. Biochem.* **47**, 997-1029 (1978).
2. Speroff, L. and Ramwell, P.W. Prostaglandins in reproductive physiology. *Am. J. Obstet. Gynecol.* **107(7)**, 1111-1130 (1970).
3. Watanabe, K., Iguchi, Y., Iguchi, S., *et al.* Stereospecific conversion of prostaglandin D<sub>2</sub> to (5Z,13E)-(15S)-9α,11β,15-trihydroxyprosta-5,13-dien-1-oic acid (9α,11β-prostaglandin F<sub>2</sub>) and of prostaglandin H<sub>2</sub> to prostaglandin F<sub>2α</sub> by bovine lung prostaglandin F synthase. *Proc. Natl. Acad. Sci. U.S.A.* **83(6)**, 1583-1587 (1986).
4. Crankshaw, D.J. and Gaspar, V. Pharmacological characterization *in vitro* of prostanoid receptors in the myometrium of nonpregnant ewes. *J. Reprod. Fertil.* **103(1)**, 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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