

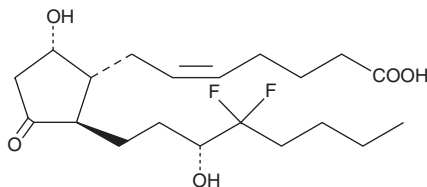
# Product Information



## 13,14-dihydro-16,16-difluoro Prostaglandin D<sub>2</sub>

Catalog No. 13612

**Formal Name:** 9 $\alpha$ ,15S-dihydroxy-11-oxo-16,16-difluoro-prosta-5Z-en-1-oic acid  
**Synonym:** 13,14-dihydro-16,16-difluoro PGD<sub>2</sub>  
**MF:** C<sub>20</sub>H<sub>32</sub>F<sub>2</sub>O<sub>5</sub>  
**FW:** 390.5  
**Purity:**  $\geq$ 95%  
**Stability:**  $\geq$ 1 year at -20°C  
**Supplied as:** A solution in methyl acetate



### Laboratory Procedures

For long term storage, we suggest that 13,14-dihydro-16,16-difluoro prostaglandin D<sub>2</sub> (13,14-dihydro-16,16-difluoro PGD<sub>2</sub>) be stored as supplied at -20°C. It should be stable for at least one year.

13,14-dihydro-16,16-difluoro PGD<sub>2</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 13,14-dihydro-16,16-difluoro PGD<sub>2</sub> in these solvents is approximately 10 mg/ml.

13,14-dihydro-16,16-difluoro PGD<sub>2</sub> is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 13,14-dihydro-16,16-difluoro PGD<sub>2</sub> should be diluted with the aqueous buffer of choice. 13,14-dihydro-16,16-difluoro PGD<sub>2</sub> has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

PGD<sub>2</sub> plays important roles in vascular smooth muscle relaxation, the inhibition of platelet aggregation, and anaphylaxis. 13,14-dihydro-16,16-difluoro PGD<sub>2</sub> is an analog of PGD<sub>2</sub>. While its biological activities have not been evaluated, it should be noted that the addition of two electron-withdrawing fluorine atoms has been used to stabilize prostanoids and significantly delay degradation *in vivo*.<sup>1</sup> Importantly, 13,14-dihydro PGE<sub>1</sub> has activity that is comparable to that of PGE<sub>1</sub>, suggesting that this analog of PGD<sub>2</sub> could be biologically active.<sup>2,3</sup>

### References

1. Hatano, Y., Kohli, J.D., Goldberg, L.I., *et al.* Vascular relaxing activity and stability studies of 10,10-difluoro-13,14-dehydroprostaglyclin. *Proc. Natl. Acad. Sci. USA* **77**(11), 6846-6850 (1980).
2. Ånggård, E. The biological activities of three metabolites of prostaglandin E<sub>1</sub>. *Acta Physiol. Scand.* **66**, 509-510 (1966).
3. Hamberg, M. and Samuelsson, B. On the metabolism of prostaglandins E<sub>1</sub> and E<sub>2</sub> in man. *J. Biol. Chem.* **246**, 6713-6721 (1971).

### Related Products

11-deoxy-11-methylene Prostaglandin D<sub>2</sub> - Cat. No. 12410 • 11-deoxy-11-methylene-15-keto Prostaglandin D<sub>2</sub> - Cat. No. 12415 • 11-deoxy-11-methylene-13,14-dihydro-15-keto-Prostaglandin D<sub>2</sub> - Cat. No. 12430 • 13,14-dihydro-15-keto Prostaglandin D<sub>2</sub> - Cat. No. 12610 • 15-deoxy- $\Delta^{12,14}$ -Prostaglandin D<sub>2</sub> - Cat. No. 12700 • 15(R)-15-methyl Prostaglandin D<sub>2</sub> - Cat. No. 12720 • 15(S)-15-methyl Prostaglandin D<sub>2</sub> - Cat. No. 12730 • 16,16-dimethyl Prostaglandin D<sub>2</sub> - Cat. No. 12750 • 17-phenyl trinor Prostaglandin D<sub>2</sub> - Cat. No. 12810 • 13,14-dihydro-15-keto-tetranor Prostaglandin D<sub>2</sub> - Cat. No. 13100 • 2,3-dinor-13,14-dehydro-15-keto PGD<sub>2</sub> - Cat. No. 13508 • 13,14-dihydro-16,16-difluoro Prostaglandin F<sub>2 $\alpha$</sub>  - Cat. No. 13609 • 13,14-dihydro-16,16-difluoro Prostaglandin J<sub>2</sub> - Cat. No. 13635 • 13,14-dihydro-15-keto Prostaglandin D<sub>2</sub> Lipid Maps MS Standard - Cat. No. 10007208 • 13,14-dihydro-15-keto Prostaglandin D<sub>2</sub>-d<sub>4</sub> - Cat. No. 10007978 • 11-deoxy-11-methylene-15(R)-15-methyl Prostaglandin D<sub>2</sub> - Cat. No. 10009252

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