

# Produktinformation



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# **Product Information**



## Prostaglandin $F_{2\alpha}$ methyl ester

Item No. 16011

**CAS Registry No:** 33854-16-9

Formal Name:  $9\alpha$ ,  $11\alpha$ , 15S-trihydroxy-prosta-5Z, 13E-

dien-1-oic acid, methyl ester

MF: FW: 368.5 **Purity:** ≥ 98%

≥ 1 year at -20°C Stability:

Supplied as: A solution in methyl acetate

# COOCH ÓН

### **Laboratory Procedures**

For long term storage, we suggest that prostaglandin  $F_{2\alpha}$  methyl ester (PGF $_{2\alpha}$  methyl ester) be stored as supplied at -20°C. It will be stable for at least one year. PGF<sub>20</sub> methyl ester 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 $_{2a}$ methyl ester in these solvents is approximately 35 mg/ml.  $PGF_{2\alpha}$  methyl ester is stable for at least six months in these

 $PGF_{2\alpha}$  methyl ester is sparingly soluble in aqueous buffers. Therefore, further dilutions of the organic solvent solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. For maximum solubility in aqueous buffers, PGF20 methyl ester should first be dissolved in ethanol and then diluted with the aqueous buffer of choice.  $PGF_{2\alpha}$  methyl ester has a solubility of 0.4 mg/ml in a 1:4 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

 $PGF_{2\alpha}$  methyl ester is an analog of  $PGF_{2\alpha}$  in which the C-1 carboxyl group has been esterified as the methyl ester.  $PGF_{2\alpha}$  methyl ester was one of the first prostaglandin esters shown to have ocular hypotensive activity. This compound continues to be a standard by which other ocular hypotensive prostaglandin prodrugs are evaluated. The methyl ester is about 4-5 times more potent than the free acid, PGF<sub>20</sub>. This difference is attributed to improved corneal penetration, and a depot effect of prolonged retention of the ester form of the compound in ocular tissue. A 2.5 µg dose of PGF<sub>2a</sub> methyl ester applied to the eyes of cats results in a 6-8 mm Hg reduction in IOP.<sup>1</sup>

### Reference

1. Bito, L.Z. Comparison of the ocular hypotensive efficacy of eicosanoids and related compounds. Exp. Eye Res. 38, 181-184 (1984).

### Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16011

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