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# Product Information



# 2,3-dinor-8-iso Prostaglandin F<sub>20</sub>

Item No. 16290

**CAS Registry No:** 221664-05-7

Formal Name:  $9\alpha$ ,  $11\alpha$ , 15S-trihydroxy-2, 3-dinor-( $8\beta$ )-

prosta-5Z,13E-dien-1-oic acid

Synonyms: 2,3-dinor-iPF<sub>2α</sub>-III

MF:  $C_{18}H_{30}O_5$ FW: **Purity:** ≥ 98%

Stability: ≥ 2 years at -20°C

Supplied as: A solution in methyl acetate

# СООН ÓН

## **Laboratory Procedures**

For long term storage, we suggest that 2,3-dinor-8-iso Prostaglandin  $F_{2\alpha}$  (2,3-dinor-8-iso PGF<sub>2\alpha</sub>) be stored as supplied at -20°C. It will be stable for at least two years.

2,3-dinor-8-iso PGF<sub>2n</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 2,3-dinor-8-iso PGF<sub>2a</sub> in these solvents is approximately 100 mg/ml. 2,3-dinor-8-iso PGF $_{2\alpha}$  is stable for at least six months in these solvents if stored at -20°C.

Further dilutions of the stock 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. If an organic solvent-free solution of 2,3-dinor-8-iso  $PGF_{2a}$  is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 2,3-dinor-8-iso PGF<sub>2 $\alpha$ </sub> in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

8-iso PGF<sub>2α</sub> (8-isoprostane) is a prostaglandin-like product of non-specific lipid peroxidation.<sup>1</sup> 2,3-dinor-8-iso  $PGF_{2\alpha}$  is a metabolite of 8-iso  $PGF_{2\alpha}$  in humans and rats.<sup>2</sup> In these species, exogenously infused 8-iso  $PGF_{2\alpha}$  is converted to 2,3-dinor-8-iso  $PGF_{1\alpha}$  and 2,3-dinor-8-iso  $PGF_{2\alpha}$ .<sup>2,3</sup> Rat hepatocytes further metabolize 8-iso PGF<sub>2α</sub> to another β-oxidation product, 2,3,4,5-tetranor-8-*iso* PGF<sub>2α</sub>. <sup>2</sup> 2,3-dinor-8-*iso* PGF<sub>2α</sub> is present in normal human urine at concentrations of 200-300 pg/ml. Its concentration is increased in conditions of oxidative injury (i.e., smoking), and correlates well with that of the parent isoprostane, 8-iso PGF<sub>20</sub>.<sup>2</sup>

- Morrow, J.D., Hill, K.E., Burk, R.F., et al. A series of prostaglandin F,-like compounds are produced in vivo in humans by a non-cyclooxygenase, free radical-catalyzed mechanism. Proc. Natl. Acad. Sci. USA 87, 9383-9387 (1990).
- Chiabrando, C., Valagussa, A., Rivalta, C., et al. Identification and measurement of endogenous β-oxidation metabolites of 8-*epi*-prostaglandin F<sub>2α</sub>. J. Biol. Chem. **274**, 1313-1319 (1999).
- Roberts, L.J., II, Moore, K.P., Zackert, W.E., et al. Identification of the major urinary metabolite of the  $F_2$ -isoprostane 8-iso-prostaglandin  $F_{2\alpha}$  in humans. J. Biol. Chem. 271, 20617-20620 (1996).

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