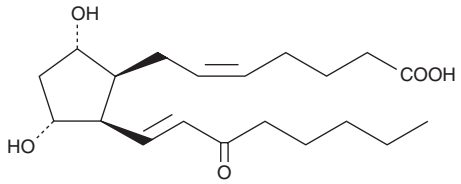
# PRODUCT INFORMATION

## 8-*iso*-15-keto Prostaglandin $F_{2\alpha}$

*Item No. 16390*

**CAS Registry No.:** 191919-01-4
**Formal Name:** 9α,11α-dihydroxy-15-oxo-(8β)-prosta-5Z,13E-dien-1-oic acid
**Synonyms:** 8-*epi*-15-keto $PGF_{2\alpha}$, 8-*iso*-15-keto $PGF_{2\alpha}$
**MF:** $C_{20}H_{32}O_5$
**FW:** 352.5
**Purity:** ≥95%
**UV/Vis.:** $\lambda_{max}$: 230 nm
**Supplied as:** A solution in methyl acetate
**Storage:** -20°C
**Stability:** ≥2 years




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

8-*iso*-15-keto Prostaglandin $F_{2\alpha}$ (8-*iso*-15-keto $PGF_{2\alpha}$) 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 8-*iso*-15-keto $PGF_{2\alpha}$ in these solvents is approximately 100 mg/ml. 8-*iso*-15-keto $PGF_{2\alpha}$ is soluble in 10 mM $Na_2CO_3$ at a concentration of approximately 6.5 mg/ml.

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 8-*iso*-15-keto $PGF_{2\alpha}$ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 8-*iso*-15-keto $PGF_{2\alpha}$ in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

8-*iso*-15-keto $PGF_{2\alpha}$ is a metabolite of the isoprostane 8-*iso* $PGF_{2\alpha}$ in rabbits, monkeys, and humans. 8-isoprostane (8-*iso* $PGF_{2\alpha}$) is a prostaglandin-like product of non-specific lipid peroxidation.[1] In both humans and monkeys, exogenously infused 8-*iso* $PGF_{2\alpha}$ is converted primarily to metabolites having 2 or 4 carbon atoms removed from the top side chain by β-oxidation.[2] A similar pattern is observed when tritiated 8-*iso* $PGF_{2\alpha}$ is infused into rabbits.[3] Early in the infusion (within 1-2 minutes) 8-*iso*-15-keto $PGF_{2\alpha}$ was a major component of the metabolite profile, which was comprised mostly of unmetabolized 8-*iso* $PGF_{2\alpha}$. 8-*iso*-15-keto $PGF_{2\alpha}$ is a vasoconstrictor when tested on the rat isolated thoracic aorta, acting *via* the TP (thromboxane) receptor.[4]

### Reference


1. Morrow, J.D., Hill, K.E., Burk, R.F., *et al.* A series of prostaglandin $F_2$-like compounds are produced *in vivo* in humans by a non-cyclooxygenase, free radical-catalyzed mechanism. *Proc. Natl. Acad. Sci. USA* **87(23)**, 9383-9387 (1990).
2. Chiabrando, C., Valagussa, A., Rivalta, C., *et al.* Identification and measurement of endogenous β-oxidation metabolites of 8-*epi*-prostaglandin F2α. *J. Biol. Chem.* **274(3)**, 1313-1319 (1999).
3. Basu, S. Metabolism of 8-iso-prostaglandin $F_{2\alpha}$. *FEBS Lett.* **428(112)**, 32-36 (1998).
4. Cracowski, J.L., Camus, L., Durand, T., *et al.* Response of rat thoracic aorta to $F_2$-isoprostane metabolites. *J. Cardiovasc. Pharmacol.* **39(3)**, 396-403 (2002).





**CAYMAN CHEMICAL**
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
**PHONE:** [800] 364-9897
[734] 971-3335
**FAX:** [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM