PRODUCT INFORMATION

8-iso Prostaglandin F$_{2a}$
Item No. 16350

CAS Registry No.: 27415-26-5
Formal Name: 9a,11a,15S-trihydroxy-(8β)-prosta-5Z,13E-dien-1-oic acid
Synonyms: iPF$_{2a}$-III, 8-iso PGF$_{2a}$, 8-iso-15(S)-Prostaglandin F$_{2a}$, 8-Isoprostane, 8-epi PGF$_{2a}$, 15-F2t-Isoprostane

MF: C$_{20}$H$_{34}$O$_5$
FW: 354.5
Purity: ≥99%
Supplied as: A crystalline solid
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 Prostaglandin F$_{2a}$ (8-iso PGF$_{2a}$) is supplied as a crystalline solid. A stock solution may be made by dissolving the 8-iso PGF$_{2a}$ in the solvent of choice. 8-iso PGF$_{2a}$ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 8-iso PGF$_{2a}$ in these solvents is approximately 100 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. Organic solvent-free aqueous solutions of 8-iso PGF$_{2a}$ can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 8-iso PGF$_{2a}$ in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

8-iso PGF$_{2a}$ is an isoprostane produced by the non-enzymatic peroxidation of arachidonic acid in membrane phospholipids.$^1$-$^3$ It is present in human plasma in two distinct forms - esterified in phospholipids and as the free acid. The ratio of these two forms is approximately 2:1, with a total plasma 8-iso PGF$_{2a}$ level of about 150 pg/ml in normal volunteers. In normal human urine, 8-iso PGF$_{2a}$ levels are about 180-200 pg/mg of creatinine.$^1$-$^2$ 8-iso PGF$_{2a}$ is a weak TP receptor agonist in vascular smooth muscle.$^4$ Conversely, 8-iso PGF$_{2a}$ inhibits platelet aggregation induced by U-46619 (10$^{-6}$ M) and I-BOP (3 x 10$^{-7}$ M) with IC$_{50}$ values of 1.6 x 10$^{-6}$ M and 1 x 10$^{-6}$ M, respectively.$^3$

References