Unoprostone isopropyl ester

Item No. 16681

CAS Registry No.: 120373-24-2
Formal Name: 9α,11α-dihydroxy-13,14-dihydro-15-oxo-20α,20β-dihomoprostaglandin F2α isopropyl ester, Rescula
Synonyms: 13,14-dihydro-15-keto-20-ethyl prostaglandin F2α isopropyl ester, Rescula
MF: C25H44O5
FW: 424.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A solution in methyl acetate

Laboratory Procedures

For long term storage, we suggest that Unoprostone isopropyl ester (Rescula) be stored as supplied at -20°C. It should be stable for at least two years.

Rescula 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 (DMF) purged with an inert gas can be used. The solubility of Rescula in these solvents is approximately 17 mg/ml.

Rescula is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Rescula should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Rescula has a solubility of approximately 50 μg/ml in a 1:1 solution of DMF-PBS (pH 7.2) using this method. Store aqueous solutions of Rescula on ice and use within 12 hours of preparation. Although the aqueous solutions of Rescula may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

Rescula is the clinically approved, prodrug form of unoprostone, which is a free acid analog of prostaglandin F2α (PGF2α). Both Latanoprost and Rescula have been approved for the treatment of ocular hypotension. Both analogs of PGF2α are believed to act by increasing the rate of aqueous humor outflow through the uveoscleral pathway. Both drugs are believed to act as prodrugs, with endogenous esterases within the eye releasing the free acid active form of the drug. The typical dose of Rescula (one drop of 0.12% solution) is nearly 100 times that of Latanoprost. Rescula has very little activity on isolated DP or TP receptors, less than 0.0005 the activity of PGE2 on EP3 receptors, and about 3% of the activity of PGF2α on FP receptors.

References


Related Products

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