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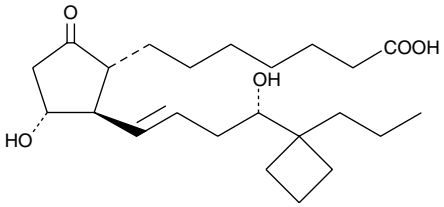
Product Information

Butaprost (free acid)

Item No. 13741

CAS Registry No.: 433219-55-7
Formal Name: 9-oxo-11α,16S-dihydroxy-17-cyclobutyl-prost-13E-en-1-oic acid
Synonym: 15-deoxy-16S-hydroxy-17-cyclobutyl PGE_1
MF: $C_{23}H_{38}O_5$
FW: 394.6
Purity: ≥95%
Stability: ≥2 years at -20˚C
Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that butaprost (free acid) be stored as supplied at -20°C. It should be stable for at least two years.

Butaprost (free acid) 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 butaprost (free acid) in ethanol is approximately 50 mg/ml and in DMSO and DMF is 25 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 butaprost (free acid) is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of butaprost (free acid) in PBS (pH 7.2) is approximately 100 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Butaprost is an EP_2 selective agonist which has frequently been used to pharmacologically define the EP receptor expression profile of various human and animal tissues and cells.[1,2] Prostaglandin free acids generally bind to their cognate receptors with 10 to 100 times the affinity of the corresponding ester derivative. Consistent with this trend, butaprost, butaprost free acid, and CAY10399 (the 2-series congener of Butaprost free acid) bind to membranes from EP_2 receptor-transfected CHO cells with K_i values of 2,400, 73 and 92 nM, respectively.[3] Since the majority of reports related to butaprost utilize the methyl ester derivative,[4,5] it may be some time before the precise pharmacology of the free acid compound is fully understood.

References

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4. Regan, J.W., Bailey, T.J., Pepperl, D.J., *et al.* Cloning of a novel human prostaglandin receptor with characteristics of the pharmacologically defined EP_2 subtype. *Mol. Pharmacol.* **46**, 213-220 (1994).
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