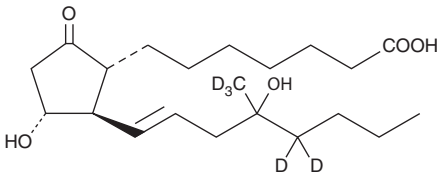
PRODUCT INFORMATION

Misoprostol (free acid)-d_5

Item No. 10010333

CAS Registry No.: 1337917-44-8
Formal Name: 9-oxo-11a,16-dihydroxy-16-(methyl-d_3)-prost-13E-en-1-oic-17,17-d_2 acid
MF: $C_{21}H_{31}D_5O_5$
FW: 373.5
Chemical Purity: ≥98% Misoprostol (free acid)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_5); ≤1% d_0
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

Misoprostol (free acid)-d_5 is intended for use as an internal standard for the quantification of misoprostol (free acid) (Item No. 13821) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Misoprostol (free acid)-d_5 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 misoprostol (free acid)-d_5 in ethanol and DMSO is approximately 50 mg/ml and approximately 100 mg/ml in DMF.

Description

Misoprostol is a PGE_1 analog with agonist activity mediated by EP_2, EP_3, and EP_4 receptors.[1-4] It has been shown to inhibit the formation of gastric lesions in rats (ED_{50} = 0.31 µg/kg),[2] inhibit superoxide generation in human neutrophils (EC_{50} = 0.35 µM),[2] and relax fetal rabbit ductus arteriosus (EC_{50} = 0.36 nM)[4] in a concentration dependent manner. Misoprostol is commonly used in clinical medicine for the prevention of peptic ulcer disease. It has also been used in conjunction with RU-486 for the oral induction of first trimester abortion. Misoprostol contains a C-1 methyl ester and is readily absorbed and rapidly hydrolyzed in humans to the active free acid.[1]

References

1. Walt, R.P. Misoprostol for the treatment of peptic ulcer and anti-inflammatory-drug-induced gastroduodenal ulceration. *N. Engl. J. Med.* **327**, 1575-1580 (1992).
2. Bunce, K.T., Clayton, N.M., Coleman, R.A., *et al.* GR63799X - a novel prostanoid with selectivity for EP 3 receptors. *Adv. Prostaglandin Thromboxane Leukot. Res.* **21**, 379-382 (1990).
3. Talpain, E., Armstrong, R.A., Coleman, R.A., *et al.* Characterization of the PGE receptor subtype mediating inhibition of superoxide production in human neutrophils. *Br. J. Pharmacol.* **114**, 1459-1465 (1995).
4. Smith, G.C.S., Coleman, R.A., and McGrath, J.C. Characterization of dilator prostanoid receptors in the fetal rabbit ductus arteriosus. *J. Pharmacol. Exp. Ther.* **271**, 390-396 (1994).

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