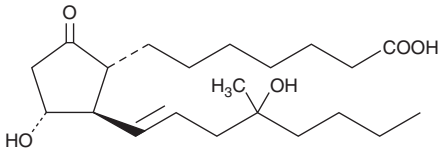
PRODUCT INFORMATION

Misoprostol (free acid)

Item No. 13821

CAS Registry No.:	112137-89-0
Formal Name:	11α,16-dihydroxy-16-methyl-9-oxo-prost-13E-en-1-oic acid
MF:	$C_{21}H_{36}O_5$
FW:	368.5
Purity:	≥97%
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) 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) in ethanol and DMSO is approximately 50 mg/ml and approximately 100 mg/ml in DMF.

Misoprostol (free acid) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of misoprostol (free acid) should be diluted with the aqueous buffer of choice. The solubility of misoprostol (free acid) in PBS (pH 7.2) is approximately 1.67 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Misoprostol is a prostaglandin E_1 (Item No. 13010) 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),inhibit superoxide generation in human neutrophils (EC_{50} = 0.35 µM), and relax fetal rabbit ductus arteriosus (EC_{50} = 0.36 nM)in a concentration dependent manner.[2-4] Misoprostol is commonly used in clinical medicine for the prevention of peptic ulcer disease. It has also been used in conjunction with mifepristone (RU-486; Item No. 10006317) for the oral induction of first trimester abortion. Misoprostol 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 antiinflammatory-drug-induced gastroduodenal ulceration. *N. Engl. J. Med.* **327(22)**, 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 Leukotriene Res.* **21(A)**, 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(7)**, 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(1)**, 390-396 (1994).

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