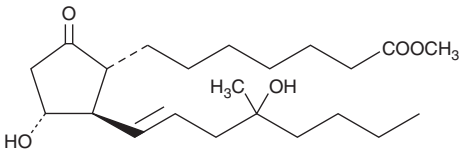
PRODUCT INFORMATION

Misoprostol

Item No. 13820

CAS Registry No.: 59122-46-2
Formal Name: 9-oxo-11α,16-dihydroxy-16-methyl-prost-13E-en-1-oic acid, methyl ester
Synonym: SC 29333
MF: $C_{22}H_{38}O_5$
FW: 382.5
Purity: ≥98%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥1 year



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Misoprostol 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 in ethanol and DMSO is approximately 50 mg/ml and approximately 100 mg/ml in DMF.

Misoprostol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of misoprostol should be diluted with the aqueous buffer of choice. The solubility of misoprostol in PBS (pH 7.2) is approximately 1.6 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Misoprostol is an analog of prostaglandin E_1 (PGE_1; Item No. 13010) and an agonist of the PGE_2 receptor subtypes EP_2 and EP_3.[1,2,3] It binds to EP_1, EP_2, $EP_{3\text{-III}}$, and EP_4 receptors (K_is = 35.675, 10.249, 0.319, 5.499 µM, respectively) and is selective for EP receptors over DP, FP, IP, and TP receptors (K_is = >100 µM for all).[1] Misoprostol inhibits electrically induced twitch contraction in isolated guinea pig ileum circular muscle and vas deferens (EC_{50}s = 102.92 and 4.3 nM, respectively), which endogenously express high levels of EP_2 and EP_3 receptors, respectively.[3,4] It inhibits FMLP-induced superoxide anion generation in human neutrophils (EC_{50} = 0.35 µM).[2] Misoprostol inhibits ethanol-induced gastric lesion formation in rats (ED_{50} = 0.31 µg/kg).[5] Formulations containing misoprostol have been used in the prevention of NSAID-induced gastric ulcers.

References

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4. Nials, A.T., Coleman, R.A., Hartley, D., *et al. Br. J. Pharmacol.* **102**, 24P (1991).
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