

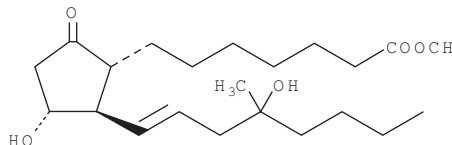
PRODUCT INFORMATION



Misoprostol

Item No. 13820

CAS Registry No.: 59122-46-2
Formal Name: 9-oxo-11 α ,16-dihydroxy-16-methyl-prost-13E-en-1-oic acid, methyl ester
Synonym: SC 29333
MF: C₂₂H₃₈O₅
FW: 382.5
Purity: \geq 98%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: \geq 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 misoprostol 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.

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 misoprostol is needed, it can be prepared by evaporating the misoprostol and directly dissolving the neat oil in aqueous buffers. 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 E₁ (PGE₁; Item No. 13010) and an agonist of the PGE₂ receptor subtypes EP₂ and EP₃.^{1,2,3} It binds to EP₁, EP₂, EP_{3-III}, and EP₄ receptors (K_is = 35.675, 10.249, 0.319, 5.499 μ M, respectively) and is selective for EP receptors over DP, FP, IP, and TP receptors (K_is = >100 μ M for all).¹ Misoprostol inhibits electrically induced twitch contraction in isolated guinea pig ileum circular muscle and vas deferens (EC₅₀s = 102.92 and 4.3 nM, respectively), which endogenously express high levels of EP₂ and EP₃ receptors, respectively.^{3,4} It inhibits FMLP-induced superoxide anion generation in human neutrophils (EC₅₀ = 0.35 μ M).² Misoprostol inhibits ethanol-induced gastric lesion formation in rats (ED₅₀ = 0.31 μ g/kg).⁵ Formulations containing misoprostol have been used in the prevention of NSAID-induced gastric ulcers.

References

1. Abramovitz, M., Adam, M., Boie, Y., *et al.* *Biochim. Biophys. Acta* **1483**(2), 285-293 (2000).
2. Talpain, E., Armstrong, R.A., Coleman, R.A., *et al.* *Br. J. Pharmacol.* **114**(7), 1459-1465 (1995).
3. Savage, M.A., Moumami, C., Karabatsos, P.J., *et al.* *Prostaglandins Leukot. Essent. Fatty Acids* **49**(6), 939-943 (1993).
4. Nials, A.T., Coleman, R.A., Hartley, D., *et al.* *Br. J. Pharmacol.* **102**, 24P (1991).
5. Bunce, K.T., Clayton, N.M., Coleman, R.A., *et al.* *Adv. Prostaglandin Thromboxane Leukot. Res.* **21**, 379-382 (1990).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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