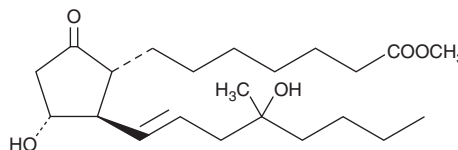


# PRODUCT INFORMATION



## Misoprostol Item No. 13820

**CAS Registry No.:** 59122-46-2  
**Formal Name:** 9-oxo-11 $\alpha$ ,16-dihydroxy-16-methyl-prost-13E-en-1-oic acid, methyl ester  
**Synonym:** SC 29333  
**MF:** C<sub>22</sub>H<sub>38</sub>O<sub>5</sub>  
**FW:** 382.5  
**Purity:**  $\geq$ 95%  
**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 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<sub>1</sub> (PGE<sub>1</sub>; Item No. 13010) and an agonist of the PGE<sub>2</sub> receptor subtypes EP<sub>2</sub> and EP<sub>3</sub>.<sup>1,2,3</sup> It binds to EP<sub>1</sub>, EP<sub>2</sub>, EP<sub>3-III</sub>, and EP<sub>4</sub> receptors (K<sub>s</sub> = 35.675, 10.249, 0.319, 5.499  $\mu$ M, respectively) and is selective for EP receptors over DP, FP, IP, and TP receptors (K<sub>s</sub> = >100  $\mu$ M for all).<sup>1</sup> Misoprostol inhibits electrically induced twitch contraction in isolated guinea pig ileum circular muscle and vas deferens (EC<sub>50</sub>s = 102.92 and 4.3 nM, respectively), which endogenously express high levels of EP<sub>2</sub> and EP<sub>3</sub> receptors, respectively.<sup>3,4</sup> It inhibits FMLP-induced superoxide anion generation in human neutrophils (EC<sub>50</sub> = 0.35  $\mu$ M).<sup>2</sup> Misoprostol inhibits ethanol-induced gastric lesion formation in rats (ED<sub>50</sub> = 0.31  $\mu$ g/kg).<sup>5</sup> 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**(A), 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 01/17/2024

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM