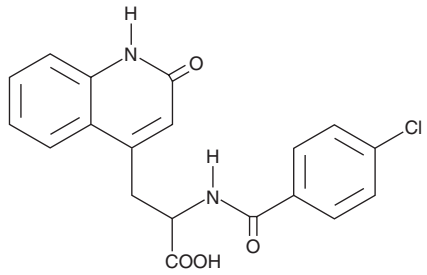
PRODUCT INFORMATION

Rebamipide

Item No. 17186

CAS Registry No.:	90098-04-7
Formal Name:	α-[(4-chlorobenzoyl)amino]-1,2-dihydro-2-oxo-4-quinolinepropanoic acid
Synonym:	OPC 12759
MF:	$C_{19}H_{15}ClN_2O_4$
FW:	370.8
Purity:	≥98%
UV/Vis.:	232, 334 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Rebamipide is supplied as a crystalline solid. A stock solution may be made by dissolving the rebamipide in the solvent of choice, which should be purged with an inert gas. Rebamipide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of rebamipide in these solvents is approximately 1 mg/ml.

Rebamipide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, rebamipide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Rebamipide has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Rebamipide is a gastroprotective agent and mucin secretagogue.[1] It increases the levels of prostaglandin E_2 (PGE_2) and COX-2 in rat gastric mucosa when administered at doses of 15 and 50 mg/kg per day. Rebamipide (30 and 100 mg/kg, i.p.) prevents the formation of gastric ulcers induced by absolute ethanol, sodium hydroxide, or hydrochloric acid in rats, an effect that can be blocked by the non-selective COX inhibitor indomethacin (Item No. 70270).[2] It also increases the production of mucin 16 in stratified corneal epithelial cells *in vitro* when used at concentrations of 10 and 100 µM.[3] Rebamipide (1% w/v) increases the levels of mucin-like substances in rabbit conjunctiva and cornea and, in a rabbit model of dry eye disease, reduces desiccation-induced corneal damage.[4] Formulations containing rebamipide have been used in the treatment of peptic ulcer disease and dry eye disease.

References

1. Sun, W.H., Tsuji, S., Gunawan, E.S., *et al.* Induction of cyclooxygenase-2 in rat gastric mucosa by rebamipide, a mucoprotective agent. *Pharmacol. Exp. Ther.* **295(2)**, 447-452 (2000).
2. Yamasaki, K., Kanbe, T., Chijiwa, T., *et al.* Gastric mucosal protection by OPC-12759, a novel antiulcer compound, in the rat. *Eur. J. Pharmacol.* **142(1)**, 23-29 (1987).
3. Uchino, Y., Woodward, A.M., and Argüeso, P. Differential effect of rebamipide on transmembrane mucin biosynthesis in stratified ocular surface epithelial cells. *Exp. Eye Res.* **153**, (2016).
4. Urashima, H., Takeji, Y., Okamato, T., *et al.* Rebamipide increases mucin-like substance contents and periodic acid Schiff reagent-positive cells density in normal rabbits. *J. Ocul. Pharmacol. Ther.* **28(3)**, 264-270 (2012).

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