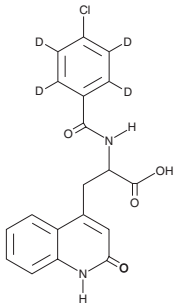
PRODUCT INFORMATION

Rebamipide-d_4

Item No. 33543

CAS Registry No.:	1219409-06-9
Formal Name:	2-(4-chlorobenzamido-2,3,5,6-d_4)-3-(2-oxo-1,2-dihydroquinolin-4-yl)propanoic acid
MF:	$C_{19}H_{11}ClD_4N_2O_4$
FW:	374.8
Chemical Purity:	≥98% (Rebamipide)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as:	A 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-d_4 is intended for use as an internal standard for the quantification of rebamipide (Item No. 17186) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Rebamipide-d_4 is supplied as a solid. A stock solution may be made by dissolving the rebamipide-d_4 in the solvent of choice, which should be purged with an inert gas. Rebamipide-d_4 is soluble in the organic solvent DMSO.

Description

Rebamipide is a gastroprotective agent and mucin secretagogue.[1,2] It increases the levels of prostaglandin E_2 (PGE_2; Item No. 14010) 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).[3] It also increases the production of mucin 16 in stratified corneal epithelial cells *in vitro* when used at concentrations of 10 and 100 µM.[2] 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. 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**, 1-7 (2016).
3. 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).
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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