Sevelamer carbonate

Cat. No.: HY-13995B

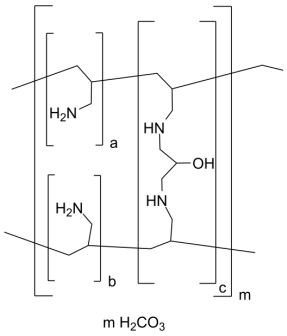
CAS No.: 845273-93-0

Molecular Formula: $(C_3H_7N.C_3H_5ClO)x.xH_2CO_3$

Target: Others

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Sevelamer carbonate is an orally active and non-calcium-based phosphate binding agent and used for the hyperphosphatemia of chronic kidney disease (CKD)research. Sevelamer carbonate effectively lowers serum phosphorus levels hile having minimal effect on serum calcium or serum chloride levels in vivo. Sevelamer carbonate is considered as an improved, buffered form of sevelamer (HY-13995)[1][2].

In Vivo

Sevelamer carbonate is an anion-exchange resin with the same polymeric structure as that of sevelamer hydrochloride, but with carbonate replacing chloride as the anion[4].

Sevelamer carbonate lowers serum phosphorus levels and calcium-phosphorus product to a similar extent as sevelamer hydrochloride. Additionally, Sevelamer carbonate is associated with significant effects on decreasing low-density lipoprotein cholesterol levels and may cause less metabolic acidosis than sevelamer hydrochloride in vivo[1].

Sevelamer carbonate (oral adminstration; 1% mixed in diet; 2-3 weeks) significantly reduces serum phosphate level in Npt2b-deficient mice. Npt2b attenuates the hyperphosphatemia in control animals and that sevelamer carbonate treatment has an additional benefit in maintaining serum phosphate in the normal range[3].

Sevelamer carbonate (oral adminstration; 1% mixed in diet; 2-3 weeks) does not alter serum phosphate levels in uremic WT mice (10.04 mg/dl , untreated versus 9.67mg/dl , binder-treated mg/dl) but further decreased serum phosphate levels in uremic Npt2b−/− mice in uremic mouse model[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	WT and Npt2b$^{-/-}$ CKD mice model[3]
Dosage:	1% mixed in diet
Administration:	Oral adminstration; 1% mixed in diet; 2-3 weeks
Result:	Attenuated chronic hyperphosphatemia in mice.

REFERENCES

[1]. Mary M Barna, et al.Sevelamer carbonate.Ann Pharmacother. 2010 Jan;44(1):127-34.

[2]. Barbara Ruggiero, et al. Effects of Sevelamer Carbonate in Patients With CKD and Proteinuria: The ANSWER Randomized Trial. Am J Kidney Dis

[3]. Susan C Schiavi, et al. Npt2b deletion attenuates hyperphosphatemia associated with CKD. J Am Soc Nephrol. 2012 Oct;23(10):1691-700.

[4]. Yongsheng Yang, et al. Evaluation of the In Vitro Efficacy of Sevelamer Hydrochloride and Sevelamer Carbonate. J Pharm Sci. 2016 Feb;105(2):864-875

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA