

Sevelamer Carbonate

Chemical Properties

CAS No. :	845273-93-0
Formula:	(C ₃ H ₇ N·C ₃ H ₅ ClO) _x ·xH ₂ CO ₃
Molecular Weight:	
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

Biological Description

Description	Sevelamer carbonate is a non-absorbed phosphate binding crosslinked polymer, with the same polymeric structure as sevelamer hydrochloride, in which carbonate replaces chloride as the counterion.
Targets(IC50)	Others
In vitro	Sevelamer carbonate is designed as an alternative to sevelamer hydrochloride with enhanced buffering capacity. The sevelamer moiety consists of a carbon backbone with multiple amine groups, each separated from the backbone by a single carbon atom. In the intestine, Sevelamer carbonate become protonated and subsequently bind to dietary phosphorus molecules via ionic and hydrogen interactions. The result of these interactions is a decrease in phosphorus levels within the gastrointestinal tract, resulting in decreased dietary phosphorus absorption and decreased serum phosphorus levels. In addition to the effect on phosphorus levels, the polymeric amine structure of sevelamer has been shown to bind bile acids to reduces total cholesterol levels. [1]
In vivo	Sevelamer Carbonate is able to reduce renal failure triggered inflammation and induced endotoxemia in experimental model of chronic kidney disease. [2] Sevelamer carbonate also shows beneficial effects on renal dysfunction, secondary hyperparathyroidism and vascular calcification in rats fed with high-phosphorus diet. [3]

Solubility Information

Solubility	H ₂ O: <1 mg/mL, Ethanol: <1 mg/mL, DMSO: <1 mg/mL, (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Reference

- Barna MM, et al. Ann Pharmacother, 2010, 44(1), 127-134.
Hauser AB, et al. Blood Purif, 2010, 30(3), 153-158.
Tokumoto M, et al. Am J Nephrol, 2009, 29(6), 582-591.

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