

Sevelamer hydrochloride

Chemical Properties

CAS No. :	152751-57-0
Formula:	(C ₃ H ₇ N·C ₃ H ₅ ClO·HCl) _x
Molecular Weight:	186.08
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 hydrochloride (Sevelamer HCl) is a phosphate binding drug used to treat hyperphosphatemia via binding to dietary phosphate and prevents its absorption.
Targets(IC50)	FXR, Autophagy
In vivo	Sevelamer is as effective as CaCO ₃ in reducing serum phosphorus, calcium-phosphorus product, and attenuating secondary hyperparathyroidism in nephrectomized rats (U) fed high phosphorus (HP) diet. Sevelamer results in markedly lower calcium deposition in the myocardium and aorta compared to control rats. [1] Sevelamer suppresses calcification of the aorta media, and also the osteoid volume, fibrosis volume, and porosity ratio of femurs in chronic renal failure rats. [2] Sevelamer results in a significantly lower degree of atherosclerosis and vascular calcification in uremic mice when compared with uremic control mice. Sevelamer exerts an effect on both intima and media calcification in uremic mice. [3] Sevelamer treatment controlled serum P independent of increases in serum Ca, thus reducing serum calcium-phosphate product and further deterioration of renal function, as indicated by the highest creatinine clearances in uremic rats. Sevelamer is as effective as CaCO ₃ in the control of high-P-induced SH, as shown by similar serum PTH levels, parathyroid (PT) gland weight, and markers of PT hyperplasia. Sevelamer causes a dramatic reduction of renal Ca deposition compared with both uremic + high-P diet (U-HP) and the U-HP+CaCO ₃ diet. [4] Sevelamer hydrochloride results in a fall in urine pH, as well as an increase in urinary ammonium and calcium excretion consistent with an increase in net acid excretion in animal model. [5]

Solubility Information

Solubility	DMSO: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.374 mL	26.8702 mL	53.7403 mL
5 mM	1.0748 mL	5.374 mL	10.7481 mL
10 mM	0.5374 mL	2.687 mL	5.374 mL
50 mM	0.1075 mL	0.5374 mL	1.0748 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- Cozzolino M, et al. *Kidney Int*, 2003, 64(5), 1653-1661.
- Robson RH, et al. *Br J Clin Pharmacol*, 1979, 7(1), 81-87.
- Phan O, et al. *Circulation*, 2005, 112(18), 2875-2882.
- Cozzolino M, et al. *J Am Soc Nephrol*, 2002, 13(9), 2299-2308.

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