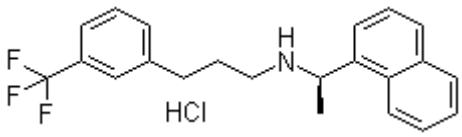
Product Introduction

Cinacalcet HCl

AMG-073 represents a new class of compounds for the treatment of hyperparathyroidism.

Technical Data:

Molecular Weight (MW):	393.88	
Formula:	$C_{22}H_{22}F_3N{\cdot}HCl$	
Solubility (25℃) * <1 mg/ml means slightly soluble or insoluble:	DMSO 79 mg/mL	
	Water <1mg/mL	
	Ethanol 33 g/mL	
Purity:	>98%	
Storage:	3 years -20℃ Powder	
	6 months-80℃ in DMSO	
CAS No.:	364782-34-3	

Biological Activity

AMG-073 represents a new class of compounds for the treatment of hyperparathyroidism known as calcimimetics, which reduce parathyroid hormone (PTH) synthesis and secretion by increasing the sensitivity of the parathyroid calcium-sensing receptor (CaR) to extracellular calcium. AMG-073 has potential advantages as a therapy for secondary hyperparathyroidism because it mimics the effects of extracellular calcium to suppress PTH secretion, even in the presence of hyperphosphatemia, without the risk of causing hypercalcemia and/or hyperphosphatemia. AMG-073 produces a concentration-dependent increase in cytoplasmic calcium in human embryonic kidney cells expressing the CaSR. In bovine parathyroid cells and a buffer containing calcium 0.5 mM, AMG 073 (3 nM – 1 μM)

produces a concentration-dependent decrease in PTH levels with IC50 of 27 nM. [2]

AMG-073 orally administrated to normal rats at dose of 1, 3, 10, and 30 mg/kg in 20% sulfobutyl ether β-cyclodextrin sodium produces a significant dose-dependent reduction in PTH levels for 1 to 4 hours after administration. At 8 hours, the 10- and 30-mg/kg doses of AMG-073 produces significant reductions in PTH levels compared with controls that disappears by 24 hours. Significant dose-dependent reduction in serum calcium levels are observed at 4, 8, and 24 hours after oral administration of AMG-073 3, 10, and 30 mg/kg, respectively. A transient reduction in serum phosphorus levels is observed only with the highest dose of AMG-073. In addition, increased calcitonin levels that paralleled PTH suppression are observed with AMG-073 40 mg/kg in rats. As in normal rats, a rapid dose-dependent reduction in PTH and calcium levels is observed in 5 of 6 nephrectomized rats after oral administration of AMG-073. In addition, oral AMG-073 at 5 and 10 mg/kg for 4 weeks significantly reduces parathyroid weight compared with controls. [2]

References

[1] Ure?a P, et al. Kidney Int Suppl, 2003, (85), S91-96.

[2] Dong BJ. Clin Ther, 2005, 27(11), 1725-1751.