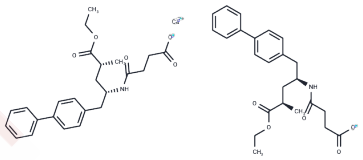
Data Sheet (Cat.No.T4200)

TargetMol

Sacubitril hemicalcium salt

Chemical Properties



CAS No. : 1369773-39-6

Formula: C48H56CaN2O10

Molecular Weight: 861.06

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Sacubitril hemicalcium salt (AHU377 calcium salt) is a potent NEP inhibitor with an IC50 of 5 nM. Sacubitril hemicalcium salt is a component of the heart failure medicine LCZ696. Sacubitril hemicalcium salt is a prodrug of LBQ657, which is an inhibitor of the zinc metallopeptidase neprilysin. Neprilysin degrades a variety of vasoactive peptides such as atrial and brain natriuretic peptide, bradykinin, adrenomedullin, and endothelin-1. Inhibition of neprilysin leads to an increased level of these peptides and, thus, antihypertensive effects. Formulations containing AHU377 in combination with the angiotensin II receptor antagonist valsartan are used to treat hypertension and heart failure.
Targets(IC50)	Neprilysin
In vitro	AHU377 is converted by enzymatic cleavage of the ethyl ester into the active neprilysin inhibiting metabolite LBQ657. The inactive NEPi precursor, AHU377, does not inhibit collagen accumulation in fibroblasts nor cardiac myocyte hypertrophy. In cardiac fibroblasts, the active NEPi LBQ657 had no discernible effects. In contrast, LBQ657 modestly inhibits cardiac myocyte hypertrophy.
In vivo	In humans, AHU377 (tmax 0.5-1.1 h) are absorbed quickly. AHU377 is converted rapidly into LBQ657 with its tmax being reached in 1.9-3.5 h. Mean t1/2 values for the biologically active LBQ657 is 9.9-11.1 h.In vehicle-treated dogs, ANF increases urinary sodium excretion from 17.3±3.6 to 199.5±18.4 pequivkglmin. This effect is potentiated significantly in animals which receive AHU377.

Solubility Information

Solubility	DMSO: 60 mg/mL (69.68 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (5.81 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1614 mL	5.8068 mL	11.6136 mL
5 mM	0.2323 mL	1.1614 mL	2.3227 mL
10 mM	0.1161 mL	0.5807 mL	1.1614 mL
50 mM	0.0232 mL	0.1161 mL	0.2323 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

Schiering N,et al. Structure of neprilysin in complex with the active metabolite of sacubitril.Sci Rep. 2016 Jun 15;6: 27909.