
Product Data Sheet

Product Name: VTP-27999

Cat. No.: GC16809

Chemical Properties

Cas. No. 942142-51-0

Chemical Name methyl (2-((3-chlorophenyl)(1-((2-(methylamino)-3-(tetrahydro-2H-pyran-3-yl)propyl)carbamoyl)piperidin-3-yl)methoxy)ethyl)carbamate

SMILES CNC(CNC(N1CCCC(C(OCCNC(OC)=O)C2=CC(Cl)=CC=C2)C1)=O)CC3CCCOCC3Formula C₂₆H₄₁ClN₄O₅ M.Wt 525.08

Solubility DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure **Background**

VTP-27999 is a highly potent and selective renin inhibitor (IC₅₀ = 0.47 nM). It exhibits >1000 selectivity for renin over >150 receptors, ion channels and enzymes.

Renin is an aspartyl protease that cleaves angiotensinogen into angiotension I in the plasma. It functions as a regulator of blood pressure and sodium homeostasis.

In vitro, VTP-27999 increases renin immunoreactivity by ≥30%, it binds to acid-activated, intact prorenin and promotes immunoreactivity in a renin assay. In vascular smooth muscle cells, VTP-27999 also blocks renin's ability to activate extracellular signal-regulated kinase 1/2 phosphorylation. [1]

In double transgenic rats engineered to express human renin and angiotensinogen with severe hypertension, 24h treatment of 10 mg/kg VTP-27999 induces a greater reduction in mean arterial blood pressure and a longer duration of action. [2]

Caution: Product has not been fully validated for medical applications. For research use only.

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References:

1. Krop M, Lu X, Verdonk K, Schalekamp MA et al. New renin inhibitor VTP-27999 alters renin immunoreactivity and does not unfold prorenin. Hypertension. 2013 May;61(5):1075-82.
2. Jia L, Simpson RD, Yuan J et al. Discovery of VTP-27999, an Alkyl Amine Renin Inhibitor with Potential for Clinical Utility. ACS Med Chem Lett. 2011 Aug 9;2(10):747-51.

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