

DC-174

Chemical Properties

CAS No. :

Formula: C15H21N3O7S2

Molecular Weight: 419.47

Storage: 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	DC-174 is an orally effective small molecule inhibitor of snake venom metalloproteinases (SVMPs) belonging to the hydroxamic acid class. As a candidate molecule optimized from the lead compound XL-784 through structure-activity relationship studies, it broadly inhibits the SVMP enzymatic activity of various snake venoms (e.g., saw-scaled viper, western diamondback rattlesnake, Malayan pit viper, etc.) with IC50 values below 10 nM by chelating the zinc ion in the SVMP active site via its hydroxamic acid group. It also neutralizes snake venom-induced procoagulant toxicity. Pharmacokinetic studies show that DC-174 reaches peak blood concentration approximately 30 minutes after oral administration but has a short half-life (approx. 1.41 hours). Optimized multi-dose regimens can prolong effective exposure time, demonstrating significant survival protection effects in severe snakebite mouse models, thus positioning it as a promising lead compound for developing oral emergency snakebite treatments.
Targets(IC50)	Others

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.384 mL	11.9198 mL	23.8396 mL
5 mM	0.4768 mL	2.384 mL	4.7679 mL
10 mM	0.2384 mL	1.192 mL	2.384 mL
50 mM	0.0477 mL	0.2384 mL	0.4768 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

Daniel J.W, et al. Discovery and Development of DC-174 as a Novel Oral Snakebite Treatment. bioRxiv 2025.05.23.655830.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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