

## RhIR antagonist 1

## Chemical Properties

CAS No. :

Formula: C<sub>12</sub>H<sub>10</sub>F<sub>2</sub>O

Molecular Weight: 208.2

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	RhIR antagonist 1 is a highly effective antagonist of the RhIR protein, showing an IC <sub>50</sub> value of 26 μM. It exhibits selective antagonistic activity against RhIR, with minimal effect on LasR and PqsR. RhIR antagonist 1 strongly inhibits biofilm formation in both static and dynamic environments and reduces the production of virulence factors, such as rhamnolipid and pyocyanin, in <i>P. aeruginosa</i> . These characteristics make RhIR antagonist 1 a valuable tool for the development of molecules that modulate quorum sensing and control <i>P. aeruginosa</i> infections [1].
Targets(IC50)	Others,Antibacterial
In vitro	RhIR antagonist 1 (compound 30) at 10 μM significantly impedes <i>P. aeruginosa</i> biofilm formation by 74%, concurrently reducing carbohydrate and protein content by 39% and 72%, respectively, and markedly curtails rhamnolipid synthesis at both 10 and 100 μM. A 24-hour exposure to 0-10 μM levels notably suppresses rhIA gene expression in biofilm cells. Thus, this compound effectively obstructs <i>P. aeruginosa</i> biofilms and virulence factor production by down-regulating rhIA expression in <i>P. aeruginosa</i> .
In vivo	Larvae administered with <i>P. aeruginosa</i> began experiencing mortality within the initial incubation phase, resulting in a 70% mortality rate by the conclusion of the 20-day period. Treatment with RhIR antagonist 1 (0-10 μM) significantly enhanced survival, with about 80% of larvae surviving by the period's end. Moreover, larvae inoculated with rhIR mutants of <i>P. aeruginosa</i> exhibited a 90% survival rate after 20 days [1].

### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	4.8031 mL	24.0154 mL	48.0307 mL
5 mM	0.9606 mL	4.8031 mL	9.6061 mL
10 mM	0.4803 mL	2.4015 mL	4.8031 mL
50 mM	0.0961 mL	0.4803 mL	0.9606 mL

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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.

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