

SDH-IN-25

Chemical Properties

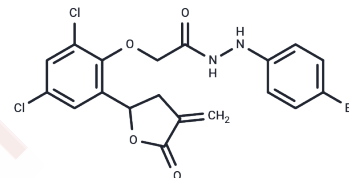
CAS No. : 3052432-15-9

Formula: C₁₉H₁₅BrCl₂N₂O₄

Molecular Weight: 486.143

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	SDH-IN-25 is an SDH inhibitor with an IC ₅₀ of 4.82 mg/L, demonstrating broad-spectrum and potent antifungal activity. By binding to SDH amino acid residues (TRP173, TYR58, and ARG43), it mimics the action mode of the commercial fungicide flutolanil. SDH-IN-25 induces changes in hyphal morphology, disrupts respiratory metabolism by binding to complex II, generates reactive oxygen species (ROS), and affects mitochondrial membrane potential (MMP) in hyphae. This compound is utilized in agricultural disease control research.
Targets(IC ₅₀)	MMP, Reactive Oxygen Species, Antifungal
In vitro	SDH-IN-25 (Compound 7Iij) demonstrates exceptional broad-spectrum fungicidal activity against eight plant pathogenic strains, including <i>R. solani</i> (EC 50 = 0.179 mg/L), <i>P. piricola</i> (EC 50 = 0.301 mg/L), <i>S. sclerotiorum</i> (EC 50 = 3.47 mg/L), <i>V. mali</i> (EC 50 = 0.789 mg/L), <i>F. graminearum</i> (EC 50 = 6.29 mg/L), <i>B. cinerea</i> (EC 50 = 0.647 mg/L), <i>P. capsici</i> (EC 50 = 5.78 mg/L), and <i>G. graminis</i> (EC 50 = 0.549 mg/L). At concentrations of 5-20 mg/L for durations of 1-9 hours, SDH-IN-25 can inhibit the respiratory metabolism of <i>R. solani</i> . Additionally, at 0-20 mg/L for 2 days, SDH-IN-25 shows outstanding SDH inhibitory activity against <i>R. solani</i> , with an IC 50 value of 4.82 mg/L.
In vivo	SDH-IN-25 (Compound 7Iij) at a concentration of 200 mg/L for 24 hours exhibits significant protective effects on apple twigs infected with <i>V. mali</i> , achieving a 69.7% control rate. When applied at 100 mg/L for 10 minutes, SDH-IN-25 shows marked efficacy against rice leaves and plants infected with rice blast fungus, with control effects of 88.7% and 69.8%, respectively, and has confirmed safety for rice. At a concentration of 1 mg/L for 72 hours, SDH-IN-25 causes abnormal growth in <i>R. solani</i> mycelia, resulting in a dry, collapsed, and wrinkled surface. Additionally, at 0.179 mg/L, it increases ROS levels and disrupts MMP in the mycelia.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.057 mL	10.2851 mL	20.5702 mL
5 mM	0.4114 mL	2.057 mL	4.114 mL
10 mM	0.2057 mL	1.0285 mL	2.057 mL
50 mM	0.0411 mL	0.2057 mL	0.4114 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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