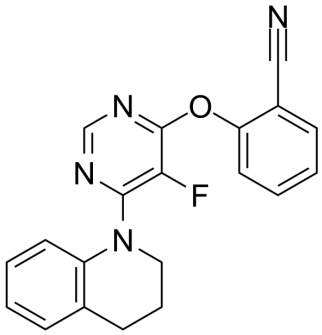
Chitin synthase inhibitor 4

Cat. No.:	HY-150686
CAS No.:	2755847-31-3
Molecular Formula:	$C_{20}H_{15}FN_4O$
Molecular Weight:	346.36
Target:	Fungal
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (288.72 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8872 mL	14.4358 mL	28.8717 mL
	5 mM	0.5774 mL	2.8872 mL	5.7743 mL
	10 mM	0.2887 mL	1.4436 mL	2.8872 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Chitin synthase inhibitor 4 (compound 4fh) is a chitin synthase inhibitor with fungicidal effect. Chitin synthase inhibitor 4 is a potential chitin synthase-based fungicide in agriculture[1].

In Vitro

Chitin synthase inhibitor 4 shows good antifungal activities against V. mali and S. sclerotiorum with EC_{50} values of 0.71 and 2.47 μg/mL, respectively[1].

Chitin synthase inhibitor 4 (50 μg/mL) displays potency inhibition against V. mali and S. sclerotiorum with inhibition rates of 90.3% and 88.7%, respectively[1].

Chitin synthase inhibitor 4 (1 μg/mL) blocks the hyphae growth, results abnormal growth, with inducing cell content decreasing, cell wall degradation, and plasmolysis[1].

Chitin synthase inhibitor 4 (50 μM; 3 h) exhibits inhibition against chitin synthase and polyoxin D with inhibition rates of 68.08% and 63.84%, respectively[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Chitin synthase inhibitor 4 (50 μg/mL) has considerable curative and protective effects against S. sclerotiorum vivo, and no obvious phytotoxicity [1].

Chitin synthase inhibitor 4 has low acute toxicity, with no carcinogenic and mutagenic toxicity risk[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Rat with Salmonella typhimurium[1]
Dosage:	As Acute Oral Toxicity for Chemicals-Acute Toxic Class Method
Administration:	Oral gavage
Result:	Showed acute toxicity of 3.58 as toxicity grading standard, and negative carcinogenic toxicity, negative mutagenic toxicity.

REFERENCES

[1]. Zhang X, et al. Synthesis, Antifungal Activity, and 3D-QASR of Novel 1,2,3,4-Tetrahydroquinoline Derivatives Containing a Pyrimidine Ether Scaffold as Chitin Synthase Inhibitors. J Agric Food Chem. 2022 Jul 21.

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