

Calcium disodium edetate hydrate

Chemical Properties

CAS No. :	23411-34-9
Formula:	C10H12CaN2O8.xH2O.2Na
Molecular Weight:	
Storage:	Keep away from moisture,Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

Biological Description

Description	Calcium disodium edetate hydrate possesses both metal-chelating and antifungal properties. Calcium disodium edetate hydrate chelates Mn^{2+} , causing mitochondrial damage, disrupting carbohydrate metabolic pathways, and inhibiting the production of pyruvate during glycolysis. It inhibits the growth of <i>Penicillium digitatum</i> , delays conidial germination, and enhances the innate defense capabilities of citrus fruits, making it suitable for research into the mechanisms underlying citrus green mold disease.
Targets(IC50)	Others
In vitro	Methods: A concentration gradient of 3.125–50 mmol/L Calcium disodium edetate hydrate was established. The <i>Penicillium digitatum</i> P44 strain was treated in vitro, and hyphal growth was observed while MIC and MFC were determined; Exposure to drug solutions ranging from 12.5 to 50 mmol/L for 8–12 h was used to evaluate the inhibitory effect on conidial germination of the strain. Results: Calcium disodium edetate hydrate completely inhibited the in vitro growth of <i>Penicillium digitatum</i> P44 hyphae; both the MIC and MFC were 50 mmol/L. Under conditions of 12.5–50 mmol/L and an exposure time of 8–12 h, it dose-dependently delayed and inhibited the germination of conidia from this strain [2].
In vivo	Methods: Plants infected with citrus green mold were treated via intra-lesional injection with 25–250 mmol/L Calcium disodium edetate hydrate. The disease incidence and lesion size were observed and recorded. Results: Intralesional injection of Calcium disodium edetate hydrate reduced the incidence of citrus green mold in a dose-dependent manner, while significantly inhibiting lesion expansion and reducing lesion area [2].

Solubility Information

Solubility	DMSO: 100 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Reference

Bjørklund G. Clinical use of the metal chelators calcium disodium edetate, DMPS, and DMSA[J]. Saudi Journal of Kidney Diseases and Transplantation, 2015, 26(3): 611

612.

Yang F, et al. Calcium disodium edetate controls citrus green mold by chelating Mn²⁺ and targeting pyruvate synthesis in the pathogen[J]. Postharvest Biology and Technology, 2023, 206: 112529.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481