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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
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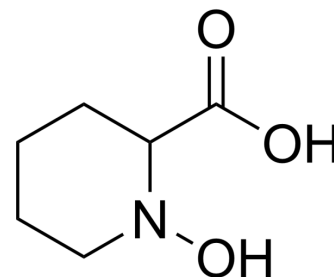
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N-Hydroxypipelicolic acid

Cat. No.:	HY-N7378
CAS No.:	115819-92-6
Molecular Formula:	C ₆ H ₁₁ NO ₃
Molecular Weight:	145.16
Target:	Bacterial
Pathway:	Anti-infection
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 50 mg/mL (344.45 mM; Need ultrasonic)					
	DMSO : 25 mg/mL (172.22 mM; ultrasonic and warming and heat to 80°C)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		6.8889 mL	34.4447 mL	68.8895 mL
5 mM			1.3778 mL	6.8889 mL	13.7779 mL	
	10 mM		0.6889 mL	3.4445 mL	6.8889 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (14.33 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (14.33 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (14.33 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	N-Hydroxypipelicolic acid (1-Hydroxy-2-piperidinecarboxylic acid), a plant metabolite and a systemic acquired resistance (SAR) regulator, orchestrates SAR establishment in concert with the immune signal salicylic acid. N-Hydroxypipelicolic acid accumulates systemically in the plant foliage in response to pathogen attack. N-Hydroxypipelicolic acid induces SAR to bacterial and oomycete infection ^{[1][2][3]} .
In Vitro	The mode of action of N-Hydroxypipelicolic acid (NHP) in SAR involves direct induction of SAR gene expression, signal amplification, priming for enhanced defense activation and positive interplay with salicylic acid signaling to ensure elevated plant immunity. Flavin-dependent-monoxygenase1 (FMO1) functions downstream of Pip by hydroxylating Pip to generate

NHP^{[1][3]}.

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

CUSTOMER VALIDATION

- Sci China Life Sci. 2022 Nov 28.

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REFERENCES

- [1]. Shan L, et al. Pipped at the Post: Pipecolic Acid Derivative Identified as SAR Regulator. Cell. 2018 Apr 5;173(2):286-287.
- [2]. Ádám AL, et al. Signals of Systemic Immunity in Plants: Progress and Open Questions. Int J Mol Sci. 2018 Apr 10;19(4). pii: E1146.
- [3]. Hartmann M, et al. N-hydroxypipicolinic acid and salicylic acid: a metabolic duo for systemic acquired resistance. Curr Opin Plant Biol. 2019 Aug;50:44-57.
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Caution: Product has not been fully validated for medical applications. For research use only.

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