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Zuschläge

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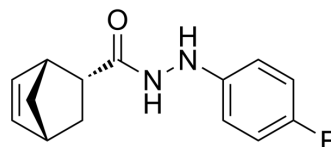
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Laccase-IN-3

Cat. No.:	HY-162488
Molecular Formula:	C ₁₄ H ₁₅ FN ₂ O
Molecular Weight:	246.28
Target:	Fungal
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Laccase-IN-3 (Compound 2b) is a laccase inhibitor (IC ₅₀ = 1.02 μM) with significant antifungal activity. Laccase-IN-3 shows superior inhibitory effect on <i>Botryosphaeria dothidea</i> (EC ₅₀ = 0.17 mg/L). Laccase-IN-3 effectively blocks the catalytic function of laccase by binding to its active center. Laccase-IN-3 also disrupts pathogen cell membrane integrity and increases ROS ^[1] .
In Vitro	Laccase-IN-3 (25 mg/L) inhibits the fungal activity by is 98.2% (B. dothidea), 92% (S. sclerotiorum), 93.9 % (F. graminearum), 53.1 % (B. cinerea), 59.9 % (P. capsici), 22.0 % (P. infestans), 81.5 % (P. nicotianae), respectively ^[1] . Laccase-IN-3 shows EC _{sub>50} against various fungi: 0.17 mg/L (B. dothidea), 2.55 mg/L (S. sclerotiorum), 2.03 mg/L (F. graminearum) ^[1] . Laccase-IN-3 (0.79-6.25 mg/L;) inhibits fungal growth by disrupting the morphology of B. dothidea ^[1] . Laccase-IN-3 (10-25 mg/L; 120min) disrupts cell membrane integrity and increases cell membrane permeability of B. dothidea mycelia. Laccase-IN-3 reduces the extracellular pH and destabilizes the intracellular environment ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Laccase-IN-3 (100,200 mg/L; 6days) shows significant protective (92.6% and 86.8%) and therapeutic (85.0% and 78.9%) activity against apple infected with B. dothidea, better than Boscalid (HY-119976) ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Jin DJ, et al. Design, synthesis, antifungal evaluation and mechanism study of novel norbornene derivatives as potential laccase inhibitors. Pest Manag Sci. 2024 Apr 16.

Caution: Product has not been fully validated for medical applications. For research use only.

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