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# Produktinformation

- Forschungsprodukte & Biochemikalien
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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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# DIMBOA

**Cat. No.:** HY-N7432

**CAS No.:** 15893-52-4

**Molecular Formula:** $C_9H_9NO_5$

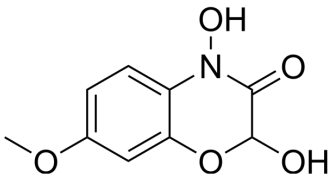
**Molecular Weight:** 211.17

**Target:** Antibiotic; Bacterial; 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 : 50 mg/mL (236.78 mM; Need ultrasonic)

| Preparing Stock Solutions | Concentration / Solvent / Mass | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 4.7355 mL | 23.6776 mL | 47.3552 mL |
| | 5 mM | 0.9471 mL | 4.7355 mL | 9.4710 mL |
| | 10 mM | 0.4736 mL | 2.3678 mL | 4.7355 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (11.84 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (9.85 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

DIMBOA, an antibiotic, has antibacterial properties and inhibits bacteria such as Staphylococcus aureus and the mycotoxin-producing fungus Fusarium graminearum (which causes scab). DIMBOA exhibits strong free radical scavenging activity and weak iron(III) ion reducing activity, and has antioxidant activity. DIMBOA inhibits the biosynthesis and accumulation of toxic trichothecenes by affecting the expression of Tri6 and Tri5. DIMBOA reduces plant susceptibility to scab. DIMBOA also exhibits cytotoxicity to plant cells, causing plasmolysis, cell collapse, and cell rupture[1][2][3][4][5].

**In Vitro**

DIMBOA (250 μM; 48, 96 h) inhibits trichothecene 15-ADON production in strain JCM 9873, suggesting avoidance of toxic trichothecene accumulation in cereal[5].

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

Cell Viability Assay[5]

| | |
|---|---|
| Cell Line: | JCM 9873 |
| Concentration: | 250 μM |
| Incubation Time: | 48, 96 h |
| Result: | Completely abolished toxin production without any apparent effect on fungal growth. |

## REFERENCES


[1]. Phuong, T.T.T., Yamamoto, M., Fujii, T. et al. Comparison of the ability to catabolize DIMBOA, a maize antibiotic, between Ostrinia furnacalis and Ostrinia scapulalis(Lepidoptera: Crambidae), with reference to their hybrids. Appl Entomol Zool 51, 143–149 (2016).

[2]. Gleńsk M, et al. In vitro evaluation of the antioxidant and antimicrobial activity of DIMBOA [2,4-dihydroxy-7-methoxy-2H-1,4-benzoxazin-3(4H)-one]. Nat Prod Res. 2016;30(11):1305-1308.

[3]. Sasai H, et al. Species-specific glucosylation of DIMBOA in larvae of the rice Armyworm. Biosci Biotechnol Biochem. 2009;73(6):1333-1338.

[4]. Etzerodt T, et al. 2,4-dihydroxy-7-methoxy-2H-1,4-benzoxazin-3(4H)-one (DIMBOA) inhibits trichothecene production by Fusarium graminearum through suppression of Tri6 expression. Int J Food Microbiol. 2015 Dec 2;214:123-128.

[5]. Sahi S V, et al. The corn wound metabolite DIMBOA causes cell death in tobacco and corn[J]. Plant Science, 1995, 108(1): 31-40.





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