

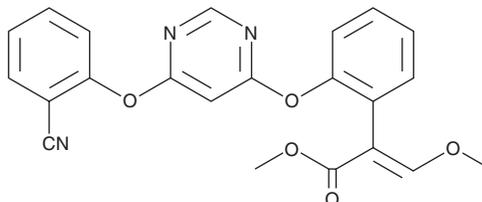
PRODUCT INFORMATION



Azoxystrobin

Item No. 24056

CAS Registry No.: 131860-33-8
Formal Name: 2-[[6-(2-cyanophenoxy)-4-pyrimidinyl]oxy]- α E-(methoxymethylene)-benzeneacetic acid, methyl ester
Synonym: ICI-A 5504
MF: C₂₂H₁₇N₃O₅
FW: 403.4
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Azoxystrobin is supplied as a solid. A stock solution may be made by dissolving the azoxystrobin in the solvent of choice, which should be purged with an inert gas. Azoxystrobin is slightly soluble in chloroform.

Description

Azoxystrobin is a broad-spectrum β -methoxyacrylate fungicide (LC_{95s} = <1 mg/L for ascomycete, basidiomycete, deuteromycete, and oomycete plant pathogens).¹ It inhibits mitochondrial respiration by binding to the Q_o site of mitochondrial complex III, also known as cytochrome bc₁ complex, and inhibiting electron transfer.² Azoxystrobin is cytotoxic to MDA-kb2 cells with an EC₂₀ value of 2.9 μ M but has no antiandrogenic activity.³ It disrupts mRNA expression of antioxidant-, stress response-, and innate immune-related genes and induces the production of reactive oxygen species (ROS) in zebrafish larva when used at doses ranging from 0.1 to 100 μ g/L.⁴ Azoxystrobin inhibits proliferation of KYSE-150 human esophageal squamous cell carcinoma cells (IC₅₀ = 2.42 μ g/ml after 48 hours) and induces apoptosis in a time- and dose-dependent manner.⁵ In a KYSE-150 nude mouse xenograft model, azoxystrobin reduces tumor growth when administered at a dose of 40 mg/kg per day. Formulations containing azoxystrobin have been used as fungicides in agricultural, aquatic, commercial, industrial, and residential areas.

References

1. Godwin, J.R., Anthony, V.M., Clough, J.M., *et al.* ICI A5504: A novel, broad spectrum, systemic β -methoxyacrylate fungicide. *Brit. Crop Prot. Conf. - Pests and Dis., Proc.* **1**, 435-442 (1992).
2. Wiggins, T.E. and Jager, B.J. Mode of action of the new methoxyacrylate antifungal agent ICIA5504. *Biochem. Soc. Trans.* **22(1)**, 68S (1994).
3. Orton, F., Rosivatz, E., Scholze, M., *et al.* Widely used pesticides with previously unknown endocrine activity revealed as *in vitro* antiandrogens. *Environ. Health Perspect.* **119(6)**, 794-800 (2011).
4. Jiang, J., Shi, Y., Yu, R., *et al.* Biological response of zebrafish after short-term exposure to azoxystrobin. *Chemosphere* **202**, 56-64 (2018).
5. Shi, X.K., Bian, X.B., Huang, T., *et al.* Azoxystrobin induces apoptosis of human esophageal squamous cell carcinoma KYSE-150 cells through triggering of the mitochondrial pathway. *Front. Pharmacol.* **8**, 277 (2017).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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