

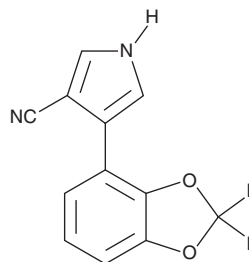
# PRODUCT INFORMATION



## Fludioxonil

Item No. 25818

**CAS Registry No.:** 131341-86-1  
**Formal Name:** 4-(2,2-difluoro-1,3-benzodioxol-4-yl)-1H-pyrrole-3-carbonitrile  
**Synonym:** CGA 173506  
**MF:** C<sub>12</sub>H<sub>6</sub>F<sub>2</sub>N<sub>2</sub>O<sub>2</sub>  
**FW:** 248.2  
**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

Fludioxonil is supplied as a solid. A stock solution may be made by dissolving the fludioxonil in the solvent of choice, which should be purged with an inert gas. Fludioxonil is slightly soluble in methanol and DMSO.

### Description

Fludioxonil is a phenylpyrrole fungicide.<sup>1</sup> It inhibits the growth of *B. cinerea* isolates from strawberry and blackberry crops (EC<sub>50</sub>s = 0.06-0.38 mg/L).<sup>2</sup> Fludioxonil also inhibits the growth of *S. cerevisiae* AF293 and *C. albicans* IFO1385 in a concentration-dependent manner.<sup>1,3</sup> It is an estrogen receptor  $\alpha$  (ER $\alpha$ ) agonist (EC<sub>50</sub> = 3.7  $\mu$ M in a yeast reporter assay) that induces expression of the oncogenic microRNA miR-21, inhibits estradiol-induced proliferation, and reduces cell motility of MCF-7 breast cancer cells *in vitro*.<sup>4</sup> Formulations containing fludioxonil have been used as fungicides in agricultural, aquatic, commercial, industrial, and residential areas.

### References

1. Kim, J.H., Campbell, B.C., Mahoney, N., *et al.* Enhanced activity of strobilurin and fludioxonil by using berberine and phenolic compounds to target fungal antioxidative stress response. *Lett. Appl. Microbiol.* **45(2)**, 134-141 (2007).
2. Li, X., Fernández-Ortuño, D., Grabke, A., *et al.* Resistance to fludioxonil in *Botrytis cinerea* isolates from blackberry and strawberry. *Phytopathology* **104(7)**, 724-732 (2014).
3. Ochiai, N., Fujimura, M., Oshima, M., *et al.* Effects of iprodione and fludioxonil on glycerol synthesis and hyphal development in *Candida albicans*. *Biosci. Biotechnol. Biochem.* **66(10)**, 2209-2215 (2002).
4. Teng, Y., Manavalan, T.T., Hu, C., *et al.* Endocrine disruptors fludioxonil and fenhexamid stimulate miR-21 expression in breast cancer cells. *Toxicol. Sci.* **131(1)**, 71-83 (2013).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 07/26/2023

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM