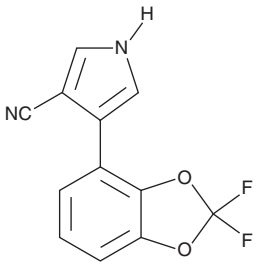
PRODUCT INFORMATION

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:	$C_{12}H_6F_2N_2O_2$
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.[1] It inhibits the growth of *B. cinerea* isolates from strawberry and blackberry crops (EC_{50}s = 0.06-0.38 mg/L).[2] Fludioxonil also inhibits the growth of *S. cerevisiae* AF293 and *C. albicans* IFO1385 in a concentration-dependent manner.[1,3] It is an estrogen receptor α (ERα) agonist (EC_{50} = 3.7 µM 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*.[4] 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).

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