Iprodione

Cat. No.: HY-B1978

CAS No.: 36734-19-7

Molecular Formula: $C_{13}H_{13}Cl_2N_3O_3$

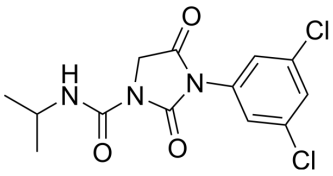
Molecular Weight: 330.17

Target: Reactive Oxygen Species; Fungal; Androgen Receptor

Pathway: Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Anti-infection; Vitamin D Related/Nuclear Receptor

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 : 100 mg/mL (302.87 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.0287 mL	15.1437 mL	30.2874 mL
5 mM	0.6057 mL	3.0287 mL	6.0575 mL
10 mM	0.3029 mL	1.5144 mL	3.0287 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.57 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.57 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Iprodione is an orally active diformimide fungicide. Iprodione can specifically cause oxidative damage by producing free radicals (ROS). Iprodione is also an antiandrogen agent that delays adolescent development in rats and reduces sexual behavior and reproductive ability in rats[1][2][3][4][5].

In Vitro

Iprodione (0.75-3 μM) completely inhibits the mycelial growth of Sclerotinia sclerotiorum at a concentration of 3 μM in liquid and solid media with EC_{50} values of 0.6 and 0.9 μM, respectively[1].

Iprodione (1.5-50 μM; 1-6 days) inhibits the growth of Botrytis cinerea, (5-50; 24 h) inhibits the synthesis of lipids in Botrytis cinerea[2].

Iprodione (0.3-0.4mM; 24 h) produces oxidative damage by increasing free radicals (ROS) in trout hepatocytes and is not

species-selective[3].

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

In Vivo

Iprodione (200 mg/kg orally; Once daily for 65 days) reduces sexual activity and fertility in rats[4].

Iprodione (50-200 mg/kg, gavage; Once daily for 30 days) delays pubertal development and inhibits steroidogenesis within the testis in immature male Sprague Dawley rats[5].

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

Animal Model:	Adult male Sprague Dawley rats model[4]
Dosage:	200 mg/kg
Administration:	Oral gavage (p.o.); Once daily for 65 days.
Result:	Decreased the gonad index, sperm motility percentage and sperm count in mice. Reduced serum levels of testosterone, LH, FSH, and E2. Promoted steroidogenic genes downregulation and suppressed SIRT1/TERT/PGC1α pathway.

Animal Model:	Weanling Sprague Dawley rats model[5]
Dosage:	50 mg/kg, 100 mg/kg, 200 mg/kg
Administration:	Gavage (i.g.); Once daily for 30 days
Result:	Delay PPS at 100 and 200 mg/kg. Reduced androgen-sensitive seminal vesicle and epididymis weight at 200 mg/kg. Increased adrenal and liver weight at a dose of 200 mg/kg. Reduced the production of testosterone and progesterone.

REFERENCES

[1]. Reilly C C, et al. The Effects of the Fungicide, Iprodione, on the Mycelium of Sclerotinia sclerotiorum[J]. Phytopathology, 1981, 71(7): 722-727.

[2]. Griffiths RG, et al. Lipid composition of Botrytis cinerea and inhibition of its radiolabelling by the fungicide iprodione. New Phytol. 2003 Oct;160(1):199-207.

[3]. Radice S, et al. Effect of iprodione, a dicarboximide fungicide, on primary cultured rainbow trout (Oncorhynchus mykiss) hepatocytes. Aquat Toxicol. 2001 Sep;54(1-2):51-8.

[4]. Abd-Elhakim Y M, et al. Iprodione and Chlorpyrifos, Alone and in a Mixture, Impaired Male Fertility and Sexual Behavior in Adult Rats via Suppression of Steroidogenic Genes and SIRT1/TERT/PGC-1α Pathway[J]. 2021.

[5]. Blystone CR, et al. Iprodione delays male rat pubertal development, reduces serum testosterone levels, and decreases ex vivo testicular testosterone production. Toxicol Lett. 2007 Nov 1;174(1-3):74-81.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA