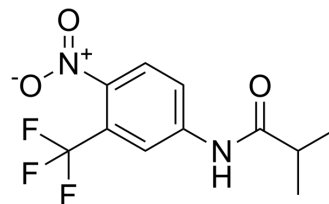


Flutamide

Cat. No.:	HY-B0022		
CAS No.:	13311-84-7		
Molecular Formula:	C ₁₁ H ₁₁ F ₃ N ₂ O ₃		
Molecular Weight:	276.21		
Target:	Androgen Receptor		
Pathway:	Vitamin D Related/Nuclear Receptor		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (362.04 mM; Need ultrasonic)
 H₂O : < 0.1 mg/mL (insoluble)

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.6204 mL	18.1022 mL	36.2043 mL
	5 mM	0.7241 mL	3.6204 mL	7.2409 mL
	10 mM	0.3620 mL	1.8102 mL	3.6204 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (9.05 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (9.05 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (9.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Flutamide is an Androgen Receptor antagonist with Ki=55 nM. Flutamide inhibits prostate cancer progression and has synergistic effects with Docetaxel (HY-B0011). Flutamide also has the potential to protect against hyperthermia-induced multiple organ dysfunction syndrome^{[1][2][3][4][5][6][7]}.

In Vitro

The active metabolite of Flutamide, is Flutamide-OH. Both of them directly bind rat anterior pituitary androgen receptor (Ki=55 nM)^[1].

	<p>Flutamide does not affect the proliferation of an androgen-sensitive clone of the mouse mammary carcinoma Shionogi SC-I 15 cells in culture, shows only antiandrogenic effect, but not androgenic effect^[2].</p> <p>Flutamide provides treatment for prostate cancer when used along with Leuprolide^[3].</p> <p>Flutamide has cytotoxic activity against PC3 and LNCap (IC50s 20 μM and 12 μM, respectively). Flutamide (10 μM, 5 μM; 48 h) induces apoptosis and reduces cell migration and colonization in PC3 and LNCap cells^[4].</p> <p>Flutamide also downregulates the expression of KLK2 and EMT pathway genes in cells^[4].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Flutamide causes a markedly reduction in rat ventral prostate weight from 319 mg to 245 mg. A combination of Flutamide and LHRH agonist, induces an additive effect with a decrease in prostate weight to 101 mg, and an marked drop in prostatic ODC activity^[5].</p> <p>Flutamide (12.5-50 mg/kg; sc; once daily for 3 days) alleviates heat stroke in heat-stressed mice^[6].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

CUSTOMER VALIDATION

- Acta Pharmacol Sin. 2021 Jan;42(1):108-114.
- Ecotoxicol Environ Saf. 2021 Apr 1;212:111991.
- J Steroid Biochem Mol Biol. 2021 Sep 20;214:106001.
- Biotechnol Bioeng. 2021 Sep 3.
- SSRN. 2023 Apr 17.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Simard J, et al. Characteristics of interaction of the antiandrogen flutamide with the androgen receptor in various target tissues. Mol Cell Endocrinol. 1986 Mar;44(3):261-70.
- [2]. Luthy IA, et al. Androgenic activity of synthetic progestins and spironolactone in androgen-sensitive mouse mammary carcinoma (Shionogi) cells in culture. J Steroid Biochem. 1988 Nov;31(5):845-52.
- [3]. Crawford ED, et al. A controlled trial of leuprolide with and without flutamide in prostatic carcinoma. N Engl J Med. 1989 Aug 17;321(7):419-24.
- [4]. Rahimnia R, et al. The effect of Ganoderma lucidum polysaccharide extract on sensitizing prostate cancer cells to flutamide and docetaxel: an in vitro study. Sci Rep. 2023 Nov 2;13(1):18940.
- [5]. Lin CY, et al. Flutamide, an androgen receptor antagonist, improves heatstroke outcomes in mice. Eur J Pharmacol. 2012 Aug 5;688(1-3):62-7.
- [6]. Marchetti B, et al. Characteristics of flutamide action on prostatic and testicular functions in the rat. J Steroid Biochem. 1988 Jun;29(6):691-8.

Caution: Product has not been fully validated for medical applications. For research use only.

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