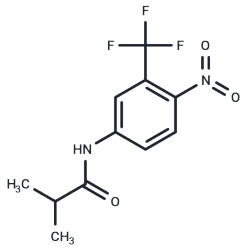
Data Sheet (Cat.No.T0489)

TargetMol

Flutamide

Chemical Properties



CAS No. : 13311-84-7

Formula: C11H11F3N2O3

Molecular Weight: 276.21

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Flutamide (SCH 13521) is an antiandrogen with about the same potency as cyproterone in rodent and canine species.
Targets(IC50)	Androgen Receptor
In vitro	Flutamide significantly reduced the prostate weight in rats from 319 mg to 245 mg. Co-administration of Flutamide with a luteinizing hormone-releasing hormone (LHRH) agonist compounded side effects, further decreasing prostate weight to 101 mg and markedly diminishing prostatic ornithine decarboxylase (ODC) activity.
In vivo	The concurrent use of Flutamide and leuprorelin can be employed in the treatment of prostate cancer. The active metabolite of Flutamide, Flutamide-OH, binds directly to the androgen receptors in the anterior pituitary of rats (Ki=55 nM). Flutamide does not affect the proliferation of androgen-sensitive clones in the Shionogi SC-115 mouse mammary carcinoma cells when cultured, displaying only antiandrogenic effects without any androgenic activity.
Kinase Assay	Androgen Receptor Assay: Aliquots of 100 µl cytosol are incubated at 0-4°C for 18 h with 100 µl of the indicated saturating concentration of [3H]T in the presence or absence of increasing concentrations of nonlabeled T, DHT, flutamide (FLU) or flutamide-OH (FLU-OH). At the end of the incubation, free and bound T are separated by the addition of 200 µl dextran-coated charcoal (1 % charcoal, 0.1% dextran T-70, 0.1% gelatin, 1.5 mM EDTA and 50 mM Tris (pH 7.4)) for 15 min before centrifugation at 2300 × g for another 15 min at 0-4°C. Aliquots (350 µl) of the supernatant are transferred to scintillation vials with 10 ml of an aqueous counting solution before counting in a Beckman LS 330 counter.
Cell Research	Effect of flutamide on the growth of an androgen-sensitive clone (SEM-l) of mouse mammary carcinoma Shionogi cells in culture. The cells are incubated up to 40 days in medium (MEM + 2% dextran-coated charcoal extracted fetal calf serum) containing the compounds at a concentration of 1 µM. Media are changed every second day.(Only for Reference)

Solubility Information

Solubility	DMSO: 250 mg/mL (905.11 mM),Sonication is recommended. Ethanol: 51 mg/mL (184.64 mM),Sonication is recommended.

Solubility	(< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (36.2 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (36.2 mM),Suspension. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6204 mL	18.1022 mL	36.2043 mL
5 mM	0.7241 mL	3.6204 mL	7.2409 mL
10 mM	0.362 mL	1.8102 mL	3.6204 mL
50 mM	0.0724 mL	0.362 mL	0.7241 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Simard J, et al. Mol Cell Endocrinol, 1986, 44(3), 261-270.
Yang R, Wang X, Wang J, et al. Insights into the sex-dependent reproductive toxicity of 2-ethylhexyl diphenyl phosphate on zebrafish (Danio rerio). Environment International. 2022, 158: 106928.
Luthy IA, et al. J Steroid Biochem, 1988, 31(5), 845-852.
Crawford ED, et al. N Engl J Med, 1989, 321(7), 419-424.
Marchetti B, et al. J Steroid Biochem, 1988, 29(6), 691-698.