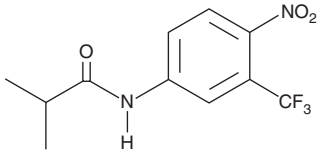
PRODUCT INFORMATION

Flutamide

Item No. 20359

CAS Registry No.:	13311-84-7
Formal Name:	2-methyl-N-[4-nitro-3-(trifluoromethyl)phenyl]-propanamide
Synonyms:	Niftolide, NSC 14783, NSC 251876, SCH 13521
MF:	$C_{11}H_{11}F_3N_2O_3$
FW:	276.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 226, 294 nm
Supplied as:	A crystalline solid
Storage:	Room temperature
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Flutamide is supplied as a crystalline solid. A stock solution may be made by dissolving the flutamide in the solvent of choice, which should be purged with an inert gas. Flutamide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of Flutamide in these solvents is approximately 30 mg/ml.

Flutamide is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Flutamide is an androgen receptor antagonist (K_is = 1.3 and 7.5 µM for the cytosolic rat ventral prostate and anterior pituitary receptors, respectively) and a prodrug form of 2-hydroxy flutamide (Item No. 15271).[1] Flutamide is converted to 2-hydroxy flutamide by the cytochrome P450 (CYP) isoform CYP1A2 in human liver microsomes.[1] It is cytotoxic to PC3 and LNCaP prostate cancer cells with IC_{50} values of 98.8 and 81.8 µM, respectively.[2] Flutamide (50 mg/kg per day) reduces tumor growth in a PC-82 mouse xenograft model.[3] Formulations containing flutamide have been used in the treatment of prostate cancer.

References

1. Shet, M. S., McPhaul, M., Fisher, C. W., *et al*. Metabolism of the antiandrogenic drug (flutamide) by human CYP1A2. *Drug Metabolism and Disposition* **25(11)**, 1298-1303 (1997).
2. Shi, Q., Wada, K., Ohkoshi, E., *et al*. Antitumor agents 290. Design, synthesis, and biological evaluation of new LNCaP and PC-3 cytotoxic curcumin analogs conjugated with anti-androgens. *Bioorg. Med. Chem.* **20(13)**, 4020-4031 (2012).
3. Nnane, I.P., Long, B.J., Ling, Y.Z., *et al*. Anti-tumour effects and pharmacokinetic profile of 17-(5'-isoxazolyl) androsta-4,16-dien-3-one (L-39) in mice: An inhibitor of androgen synthesis. *Br. J. Cancer* **83(1)**, 74-82 (2000).

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