Flutamide

Product Number  F 9397
Store at Room Temperature

Product Description
Molecular Formula:  C_{11}H_{11}F_{3}N_{2}O_{3}
Molecular Weight:  276.2
CAS Number:  13311-84-7
Synonyms:  2-methyl-N-[4-nitro-3-(trifluoromethyl)phenyl]propanamide; α,α,α-trifluoro-2-methyl-4'-nitro-m-propionotoluidide; 4'-nitro-3'-trifluoromethylisobutyranilide

The non-steroidal compound flutamide is used in endocrinology research. It has been reported to possess anti-androgenic properties and to act in tissue via inhibition of androgen uptake and binding. The principal metabolite of flutamide is 2-hydroxyflutamide, which is also an anti-androgenic compound. Both compounds bind readily to plasma proteins.²

Flutamide has been utilized in a study of mammary epithelial growth and differentiation in the mouse HC11 cell line to block the actions of various androgens on the cultured cells, at a concentration of 3 µM.³ Flutamide (100 nM) was shown to abolish the inhibitory effect of testosterone on DNA synthesis in cultured male human umbilical vein cells.³

The formation of a water-soluble complex of flutamide with hydroxypropyl-β-cyclodextrin and its uptake into Caco-2 cells has been studied.⁵ An HPLC method for flutamide that includes an investigation of the stability of this product is both the solid and solution states has been published.⁶

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in ethanol (50 mg/ml), with heat as needed, yielding a clear to hazy, yellow to yellow-green solution. It is also soluble in acetone, ethyl acetate, methanol, chloroform, and ether.²

Storage/Stability
A study of flutamide in aqueous solution has indicated that over a period of 12 days, the compound degraded at ambient or high temperature (22 °C, 37 °C) and acidic pH conditions (pH 1.1). Inclusion of sodium chloride prevents the breakdown of flutamide in aqueous solution.⁶

References
1. The Merck Index, 12th ed., Entry# 4242.