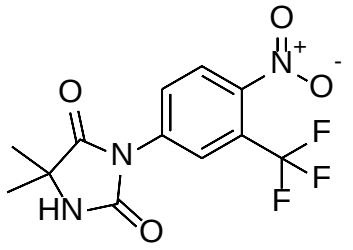
Product data sheet

MedKoo Cat#: 100667 Name: Nilutamide CAS: 63612-50-0 Chemical Formula: $C_{12}H_{10}F_3N_3O_4$ Exact Mass: 317.0623 Molecular Weight: 317.2207	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Nilutamide is an antiandrogen medication used in the treatment of advanced-stage prostate cancer. Nilutamide blocks the androgen receptor, preventing its interaction with testosterone. Because most prostate cancer cells rely on the stimulation of the androgen receptor for growth and survival, nilutamide can prolong life in men with prostate cancer. Nilutamide is marketed under the name Nilandron in the United States and under the name Anandron in Canada. (Source: http://en.wikipedia.org/wiki/Nilutamide)

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	156.5	493.35
Ethanol	63.0	198.60

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.15 mL	15.76 mL	31.52 mL
5 mM	0.63 mL	3.15 mL	6.30 mL
10 mM	0.32 mL	1.58 mL	3.15 mL
50 mM	0.06 mL	0.32 mL	0.63 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Brancaleone V, Vellecco V, Matassa DS, d'Emmanuele di Villa Bianca R, Sorrentino R, Ianaro A, Bucci M, Esposito F, Cirino G. Crucial role of androgen receptor in vascular H2S biosynthesis induced by testosterone. Br J Pharmacol. 2015 Mar;172(6):1505-15. doi: 10.1111/bph.12740. Epub 2014 Jul 2. PMID: 24750035; PMCID: PMC4369260.
2. Chang CY, Hsuuw YD, Huang FJ, Shyr CR, Chang SY, Huang CK, Kang HY, Huang KE. Androgenic and antiandrogenic effects and expression of androgen receptor in mouse embryonic stem cells. Fertil Steril. 2006 Apr;85 Suppl 1:1195-203. doi: 10.1016/j.fertnstert.2005.11.031. PMID: 16616092.

In vivo study

1. Horsmans Y, Lannes D, Larrey D, Tinel M, Letteron P, Loeper J, Pessayre D. Nilutamide inhibits mephenytoin 4-hydroxylation in untreated male rats and in human liver microsomes. Xenobiotica. 1991 Dec;21(12):1559-70. doi: 10.3109/00498259109044405. PMID: 1785203.
2. Babany G, Tinel M, Letteron P, Freneaux E, Berson A, Larrey D, Pessayre D. Inhibitory effects of nilutamide, a new androgen receptor antagonist, on mouse and human liver cytochrome P-450. Biochem Pharmacol. 1989 Mar 15;38(6):941-7. doi: 10.1016/0006-2952(89)90284-0. PMID: 2930595.

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7. Bioactivity

Biological target:

Nilutamide (Nilandron) is an orally active nonsteroidal androgen receptor antagonist.

In vitro activity

Although both T and DHT had marginal effects on AR mRNA expression level and cell growth in vitro, the nonsteroidal antiandrogen nilutamide significantly stimulated ESC growth and induced Akt expression. The enhancing effects of nilutamide on mouse ESCs indicated that the Akt pathway may be involved in nilutamide-promoted ESC growth.

Reference: Fertil Steril. 2006 Apr;85 Suppl 1:1195-203. https://pubmed.ncbi.nlm.nih.gov/16616092/

In vivo activity

A last series of experiments was performed after administration of nilutamide in mice. Thirty minutes after administration of doses (15 or 30 mumol.kg-1 i.p.) similar to those used in humans, the hexobarbital sleeping time was increased by 40 and 60%, respectively. There was no evidence, however, for the irreversible inactivation of microsomal enzymes since CO-binding cytochrome P-450 and monooxygenase activities remained unchanged in liver microsomes from mice killed 1 or 6 hr after administration of nilutamide (30 mumol.kg-1 i.p.). These results show that nilutamide inhibits hepatic cytochrome P-450 activity, and suggest that inhibition may actually occur after therapeutic doses of nilutamide in humans.

Reference: Biochem Pharmacol. 1989 Mar 15;38(6):941-7. https://pubmed.ncbi.nlm.nih.gov/2930595/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.