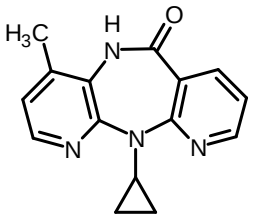
Nevirapine PK Fact Sheet

Details

Generic Name	Nevirapine
Trade Name	Viramune®
Class	Non-Nucleoside Reverse Transcriptase Inhibitor
Molecular Weight	266.3
Structure	

Summary of Key Pharmacokinetic Parameters

Linearity/non-linearity	Following multiple doses, nevirapine peak concentrations appear to increase linearly in the dose range of 200 to 400 mg/day.
Steady state	Steady state attained after ~2-4 weeks due to autoinduction of CYP3A and CYP2B6.
Plasma half life	25-30 h following multiple dosing
Cmax	5.74 µg/ml (5.00-7.44), 200 mg twice daily
Cmin	3.73 µg/ml (3.20-5.08), 200 mg twice daily
AUC	109.0 µg/ml.hr (96.0-143.5), 200 mg twice daily
Bioavailability	93% for 50 mg tablet, 91% for oral solution
Absorption	Nevirapine may be administered with or without food. When nevirapine (200 mg) was administered to 24 healthy adults (12 female, 12 male) with a high-fat breakfast (857 kcal, 50 g fat, 53% of calories from fat), nevirapine AUC was comparable to that observed under fasting conditions.
Protein Binding	~60%
Volume of Distribution	1.21 ± 0.09 L/kg
CSF:Plasma ratio	45 ± 5% of concentrations in plasma
Semen:Plasma ratio	0.6-1.0 [1]
Renal Clearance	<3% as unchanged drug
Renal Impairment	Renal impairment (mild, moderate and severe) has been found to result in no significant change in the pharmacokinetics of nevirapine.
Hepatic Impairment	Safety and efficacy not established in patients with significant underlying liver disorders. Nevirapine is contraindicated in patients with severe hepatic impairment (Child-Pugh C). Caution should be exercised in patients with moderate hepatic dysfunction (Child-Pugh B).

Metabolism and Distribution

Metabolised by	CYP3A4, CYP2B6
Inducer of	CYP3A4, potentially CYP2B6
Inhibitor of	BCRP(*in vitro*) [2]; MRP1, MRP2, MRP3 [3]
Transported by	Unknown

References

Unless otherwise stated (see below), information is from:
Viramune® Summary of Product Characteristics, Boehringer Ingelheim Ltd.
Viramune® US Prescribing Information, Boehringer Ingelheim Pharmaceuticals Inc.

1. Kashuba ADM *et al*. Comparison of protease inhibitor and non-nucleoside reverse transcriptase inhibitor concentrations in the male and female genital tract. 3rd International Workshop on Clinical Pharmacology of HIV Therapy, Washington, April 2002. Abstract 5.3.
2. Weiss J, Rose J, Storch CH, *et al.* Modulation of human BCRP (ABCG2) activity by anti-HIV drugs. *J Antimicrob Chemother.* 2007; 59(2): 238-245.
3. Weiss J, Theile D, Ketabi-Kiyanvash N, *et al.* Inhibition of MRP1/ABCC1, MRP2/ABCC2 and MRP3/ABCC3 by nucleoside, nucleotide and non-nucleoside reverse transcriptase inhibitors. *Drug Metab Dispos.* 2007; 35(3): 340-344.