Efavirenz PK Fact Sheet

Details

**Generic Name**  
Efavirenz

**Trade Name**  
Sustiva®, Stocrin®

**Class**  
Non‐Nucleoside Reverse Transcriptase Inhibitor

**Molecular Weight**  
315.68

**Structure**

![Structure of Efavirenz](image)

Summary of Key Pharmacokinetic Parameters

**Linearity/non-linearity**  
Dose related increases in Cmax and AUC were seen for doses up to 1600 mg; the increases were less than proportional suggesting diminished absorption at higher doses.

**Steady state**  
Steady-state plasma concentrations were reached in 6-7 days.

**Plasma half life**  
40-55 h after multiple doses

**Cmax**  
4.07 µg/ml

**Cmin**  
1.76 µg/ml

**AUC**  
57.9 µg/ml.h

**Bioavailability**  
Not available

**Absorption**  
It is recommended that efavirenz be taken on an empty stomach, preferably at bedtime. The AUC and Cmax of a single 600 mg dose of efavirenz film-coated tablets in uninfected volunteers was increased by 28% (90% CI: 22-33%) and 79% (90% CI: 58-102%), respectively, when given with a high fat meal, relative to when given under fasted conditions.

**Protein Binding**  
>99%

**Volume of Distribution**  
~252 L [1]

**CSF:Plasma ratio**  
0.69% (range 0.26-1.19%) of corresponding plasma concentrations.

**Semen:Plasma ratio**  
0.09 (0.03-0.43) [2]

**Renal Clearance**  
<1% as unchanged drug

**Renal Impairment**  
Pharmacokinetics of efavirenz have not been studied in renal insufficiency. Less than 1% of a dose is excreted unchanged in the urine; impact of renal impairment on efavirenz elimination should be minimal.

**Hepatic Impairment**  
Because of extensive CYP450 mediated metabolism and limited clinical experience, caution is recommended in patients with mild/moderate liver disease. Safety and efficacy of efavirenz has not been established in patients with significant underlying liver disorders. It is contraindicated in patients with severe hepatic impairment.
## Metabolism and Distribution

**Metabolised by**  
CYP3A4, CYP2B6 *(in vitro)*

**Inducer of**  
CYP3A4

**Inhibitor of**  
CYP2C9, CYP2C19, CYP3A4; BCRP *(in vitro)*[^3]; MRP1, MRP2, MRP3[^4]

**Transported by**  
Unknown

## References

*Unless otherwise stated (see below), information is from:*

**Sustiva® Summary of Product Characteristics, Bristol-Myers Squibb Pharmaceuticals Ltd.**

**Sustiva® US Prescribing Information, Bristol-Myers Squibb.**


