Saquinavir PK Fact Sheet

Details

Generic Name  Saquinavir
Trade Name  Invirase®
Class  Protease Inhibitor
Molecular Weight  670.86 (as free base)

Structure

Summary of Key Pharmacokinetic Parameters

Plasma half life  7-12 h [1]
Cmax  5208 (1536-14369) ng/ml (1000/100mg saquinavir/ritonavir twice daily; tablet, with food)
Cmin  1179 (334-5176) ng/ml (1000/100mg saquinavir/ritonavir twice daily; tablet, with food)
AUC  69852 ng/ml.hr (24h) (1000/100mg saquinavir/ritonavir twice daily; tablet, with food)
Bioavailability  4% (600 mg single dose alone, hard capsules)
Absorption  Saquinavir/ritonavir should be administered with or after food. In a cross-over study in 22 HIV-infected patients treated with saquinavir/ritonavir (1000/100 mg twice daily) and receiving three consecutive doses under fasting conditions or after a high-fat, high-calorie meal (46 g fat, 1,091 Kcal), the AUC, Cmax and Ctrough values of saquinavir under fasting conditions were about 70% lower than with a high-fat meal. All but one of the patients achieved Ctrough values of saquinavir above the therapeutic threshold (100 ng/ml) in the fasted state. There were no clinically significant differences in the pharmacokinetic profile of ritonavir in fasting and fed conditions but the ritonavir Ctrough (geometric mean 245 vs 348 ng/ml) was lower in the fasting state compared to the administration with a meal.

Protein Binding  ~97%
Volume of Distribution  700 L (12 mg IV dose)
CSF:Plasma ratio  Negligible
Semen:Plasma ratio  0.04 [1]
Renal Clearance  1-3%
Renal Impairment  Renal clearance is a minor elimination pathway. No dosage adjustment required in mild/moderate renal impairment; caution should be exercised in severe renal impairment
Hepatic Impairment  No dosage adjustment necessary in mild hepatic impairment; Caution should be exercised in patients with moderate hepatic impairment. The use of saquinavir in decompensated hepatic impairment is contraindicated
Metabolism and Distribution

**Metabolised by**  
CYP3A4

**Inducer of**  
N/A

**Inhibitor of**  
P-glycoprotein \(^2\), MRP1 \(^3\), BCRP (in vitro)\(^4\), OATP-C\(^5\)

**Transported by**  
P-glycoprotein \(^2\), MRP1 \(^3\), MRP2 \(^6\), hOATPs \(^7\)

References

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

Invirase® Summary of Product Characteristics, Roche Products Ltd.

Invirase® Prescribing Information, Genentech Inc.


