

Table 45.4. Pharmacokinetic data of volunteers and various patient groups.

Patient group	Dose	AUC 0–∞ mg/h/l	C _{max} mg/l	Volume of distribution	Half-life	Clearance	Data presentation	Reference
Adult oncology patients with neutropenic fever (n = 28) ^a	6 mg/kg	164–679	21.5–75.5	0.13–0.36 l/kg	5.2–2.5 h	8.38–34.76 ml/h/kg	Range	Bubalo (2009)
Adults, healthy volunteers (n = 15)	Single dose 6 mg/kg (A: 2-min i.v. injection; B: 30-min i.v. infusion)	A: 691 ± 96.0 B: 725 ± 63.3	A: 94.7 ± 22.6 B: 88.4 ± 12.4	A: 0.113 ± 0.014 B: 0.105 ± 0.012	A: 8.7 ± 1.0 B: 8.7 ± 0.9	A: 0.0089 ± 0.0012 l/h/kg B: 0.0083 ± 0.0008 l/h/kg	Mean ± SD	Chakraborty (2009)
Adults, healthy volunteers (n = 12)	6 mg/kg (A: day 1; B: day 7)	A: 690 ± 68.8 B: n.a.	A: 97.5 ± 17.3 B: 91.8 ± 17.9	A: 0.106 ± 0.011 B: 0.107 ± 0.011	A: 8.4 ± 0.63 B: 8.65 ± 0.63	A: 0.0088 ± 0.0009 l/h/kg B: 0.0087 ± 0.001 l/h/kg	Mean ± SD	Chakraborty (2009)
Adults, healthy volunteers (n = 8)	4 mg/kg (A: day 1; B: day 7)	A: 468 ± 98.9 B: n.a.	A: 56.8 ± 8.3 B: 62.8 ± 11.3	A: 0.116 ± 0.031 B: 0.109 ± 0.011	A: 9.08 ± 0.94 B: 8.93 ± 1.05	A: 0.009 ± 0.0025 l/h/kg B: 0.0086 ± 0.001 l/h/kg	Mean ± SD	Chakraborty (2009)
Adults, healthy Taiwanese volunteers (n = 13)	4 mg/kg (A: day 1; B: day 5)	A: 470 ± 72.2 B: 413 ± 84.1 ^b	A: 62.4 ± 9.5 B: 58.3 ± 8.95	A: 104 ± 25.7 ml/kg B: 114 ± 27.3 ml/kg	A: 8.44 ± 2.11 B: 7.98 ± 1.62	A: 8.69 ± 1.3 ml/h/kg B: 10.1 ± 2.34 ml/h/kg	Mean ± SD	Liang (2009)
Adults on hemodialysis (n = 6)	Single dose 6 mg/kg after hemodialysis	2168 ± 686	61.1 ± 7.6	0.08 ± 0.03 l/kg	19.4 ± 6.5	3.4 ± 1.3 ml/min	Mean ± SD	Salama (2010)
Patients undergoing CABG surgery (n = 15)	Single dose 8 mg/kg	867 ± 312	84.4 ± 27.1	0.21 ± 0.10 l/kg	13.8 ± 3.9	10.8 ± 5.2	Mean ± SD	Nguyen (2011)
Children, postnatal age median 3 days (n = 20)	Single dose 6 mg/kg	262.4 ^b	—	0.21 l/kg	6.2 h	0.021 l/h/kg	Median	Cohen-Wolkowicz (2012)
Children (n = 7)	Single dose 4 mg/kg	A: 374 ± 64.2 B: 271 ± 133 C: 215 ± 59.7	A: 50.0 ± 11.1 B: 48.0 ± 11.0 C: 43.8 ± 6.3	A: 0.11 ± 0.02 B: 0.12 ± 0.02 C: 0.13 ± 0.02 l/kg	A: 6.7 ± 2.2 B: 5.6 ± 2.2 C: 5.3 ± 1.9	A: 11.0 ± 2.1 ml/h/kg B: 17.0 ± 5.7 ml/h/kg C: 20.0 ± 6.1 ml/h/kg	Mean ± SD	Abdel-Rahman (2008)
Children (n = 7)	Single dose 4 mg/kg	A: 429 ± 113.0 B: 549 ± 139.3	A: 68.4 ± 9.3 B: 79.2 ± 10.2	A: 0.14 ± 0.01 B: 0.14 ± 0.03	A: 5.4 ± 1.4 B: 5.7 ± 0.6	A: 19.5 ± 5.0 ml/h/kg B: 19.1 ± 4.5 ml/h/kg	Mean ± SD	Abdel-Rahman (2011)
Children 2–6 y (n = 12)	A: Single dose 8 mg/kg (n = 6) B: Single dose 10 mg/kg (n = 6)	A: 473 (23.2) B: 300 (11.5)	A: 43.9 (16.7) B: 42.3 (15.4)	A: 0.15 (26.8) B: 0.14 (12.8) l/kg	A: 11.8 (18.9) B: 6.8 (7.8)	A: 9.9 (25.1) ml/h/kg B: 15.1 (16.4) ml/h/kg	Mean (CV%)	Dvorchik and Damphousse (2004)
Volunteers (n = 12)	Single dose 4 mg/kg	A: 215 (31.8) B: 219 (30.5) C: 281 (15.8)	A: 38.7 (13.5) B: 37.1 (33.9) C: 67.0 (21.7)	A: 127 (9.2) B: 134 (21.2) C: 121 (25.2) ml/kg	A: 5.1 (22.9) B: 5.45 (20.8) C: 4.41 (21.4)	A: 19.7 (27.7) ml/h/kg B: 19.6 (29.3) ml/h/kg C: 21.7 (13.7) ml/h/kg	Mean (CV%)	Bradley (2014)
Volunteers (n = 11)	A: 4 mg/kg 3–6 min (n = 7) B: 4 mg/kg 7–12 min (n = 7) C: 6 mg/kg 13–24 min (n = 5)	A: 700 B: 690	A: 133 B: 88.2	A: 101 B: 105	A: 8.59 B: 8.81	A: 8.56 ml/h/kg B: 8.75 ml/h/kg	Geometric mean	Aoki (2015)

^aOne outlier was excluded.^bArea-under-the-concentration-time curve (AUC) 0–24 h.

Administrations are over 30 minutes (unless stated otherwise).

Abbreviations: C_{max}: peak serum concentration; SD: standard deviation; n.a.: not applicable; CABG: coronary artery bypass graft; CV%: coefficient of variation.