

Table 4.1 The pharmacokinetic parameters of hydroxycinnamic acids detected in the blood or plasma of humans after drinking coffee

Reference	Amount	Source	Compound	Cmax	Tmax	AUC (time span)
Nardini et al. (2002)	200 ml	Brewed coffee	CA	91.3 ± 31.1 ng/ml	1 h	n/a
			FA	Not detected	n/a	n/a
Farah et al. (2008)	170 mg of hydroxycinnamic acids	Green coffee extract	CGA	14.8 ± 11.7 umol/l	3.1 ± 2.6 h	45.6 ± 37.1 μmol/h/l (0–8h)
			CQA	8.2 ± 6.3 umol/l	3.3 ± 2.4 h	25.2 ± 24.4 μmol/h/l (0–8h)
			5-CQA	5.9 ± 4.2 umol/l	3.3 ± 2.4 h	17.9 ± 15.3 μmol/h/l (0–8h)
			CA	1.1 ± 0.9 umol/l	3.6 ± 2.1 h	3.8 ± 3.2 μmol/h/l (0–8h)
			FA	0.8 ± 0.3 umol/l	2.9 ± 1.8 h	3.6 ± 1.5 μmol/h/l (0–8h)
			iFA	0.9 ± 0.2 umol/l	2.9 ± 1.8 h	3.5 ± 1.9 μmol/h/l (0–8h)
Monteiro et al. (2007)	190ml	Decaffeinated brewed coffee	CGA	7.66 ± 2.50 μmol/l	2.25 ± 1.25 h	17.11 ± 8.41 μmol/h/l (0–4h)
			CQA	4.89 ± 2.53 μmol/l	2.25 ± 1.25 h	11.48 ± 7.12 μmol/h/l (0–4h)
			5-CQA	3.14 ± 1.64 μmol/l	2.33 ± 1.17 h	8.10 ± 5.05 μmol/h/l (0–4h)
			CA	1.56 ± 1.62 μmol/l	1.42 ± 0.38	2.81 ± 1.75 μmol/h/l (0–4h)
Renouf et al. (2010a)	4 g	Instant coffee	CA	~50 nM	~1 h	n/a
			FA	~150 nM	~1 h	n/a
			iFA	~100 nM	~1 h	n/a
Renouf et al. (2010b)	4 g	Instant coffee	CA	81.1 ± 29.7 nM	100.0 min	n/a
			FA	139.4 ± 43.8 nM	143.9 min	n/a
			iFA	97.6 ± 32.4 nM	109.2 min	n/a
Renouf et al. (2014)	2 g	Instant coffee	5-CQA	~12 nM	40 min	~0.25 μM min (0–24h)
			CA	~50 nM	47 min	~7.1 μM min (0–24h)
			FA	~90 nM	47 min	~22.9 μM min (0–24h)
			iFA	~40 nM	58 min	~5.6 μM min (0–24h)

2

Erk et al. (2012)	4 g	Instant coffee	5-CQA	~17 nM	61 min	~1.25 µM min (0–24 h)
			CA	~90 nM	58 min	~20 µM min (0–24 h)
			FA	~120 nM	41 min	~45.7 µM min (0–24 h)
			iFA	~60 nM	89 min	~8.6 µM min (0–24 h)
	8 g	Instant coffee	5-CQA	~30 nM	44 min	~4.25 µM min (0–24 h)
			CA	~160 nM	76 min	~45.7 µM min (0–24 h)
			FA	~300 nM	30 min	~80 µM min (0–24 h)
			iFA	~160 nM	62 min	~45.7 µM min (0–24 h)
	4525 µmol of CGA	Decaffeinated coffee	5-CQA	44 ± 7 nM	0.8 ± 0.3 h	125 ± 38nM/h (0–8 h)
			CA	214 ± 22 nM	0.6 ± 0.2 h	605 ± 176nM/h (0–8 h)
			FA	518 ± 76 nM	0.5 ± 0.0 h	937 ± 157nM/h (0–8 h)
			iFA	262 ± 91 nM	0.5 ± 0.0 h	559 ± 249nM/h (0–8 h)
2218 µmol of CGA		Decaffeinated coffee	5-CQA	30 ± 12 nM	0.9 ± 0.2 h	85 ± 32nM/h (0–8 h)
			CA	162 ± 52 nM	0.9 ± 0.2 h	445 ± 172nM/h (0–8 h)
			FA	214 ± 39 nM	0.5 ± 0.0 h	453 ± 93nM/h (0–8 h)
			iFA	110 ± 6 nM	0.5 ± 0.0 h	190 ± 43nM/h (0–8 h)
1053 µmol of CGA		Decaffeinated coffee	5-CQA	14 ± 5 nM	0.6 ± 0.2 h	43 ± 13nM/h (0–8 h)
			CA	77 ± 12 nM	0.5 ± 0.0 h	243 ± 71nM/h (0–8 h)
			FA	147 ± 27 nM	0.5 ± 0.0 h	377 ± 84nM/h (0–8 h)
			iFA	76 ± 27 nM	0.7 ± 0.2 h	344 ± 315nM/h (0–8 h)

CA, caffeic acid; CGA, chlorogenic acid; CQA, caffeoylquinic acid; FA, ferulic acid; iFA, isoferulic acid

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