

Table 1. Standard calibration curves of genistein calculated by the HPLC-UV method developed.

Matrix	Range	Slope (SD)	Intercept (SD)	<i>r</i>
Plasma	25-2500 (ng/mL)	0.0015 (0.0002)	0.0170 (0.0068)	0.996
Liver ^a	25-2500 (ng/mL) 36-3600 (ng/g)	0.0013 (0.0002)	0.0168 (0.0127)	0.997
Spleen ^a	25-2500 (ng/mL) 93-9300 (ng/g)	0.0010 (0.0001)	0.0023 (0.0032)	0.997
Kidney ^a	25-2500 (ng/mL) 325-32500 (ng/g)	0.0015 (0.0002)	0.0122 (0.0151)	0.998

^aConcentrations of tissues are expressed as ng/mL tissue homogenate and its equivalence in ng/g tissue is given in the second line.

Table 2. Accuracy, precision and between- and within- day measured concentrations for analysis of genistein quality controls by the HPLC-UV method developed.

Matrix	Conc (ng/mL)	Measured concentration (ng/mL, mean +/- SD)				Accuracy (bias %)	Precision (CV)	
		Between-day (5 batches, n=20)		Within-day (1 batch, n=5)			Between-day (5 batches, n=20)	Within-day (1 batch, n=5)
		Mean	SD	Mean	SD			
Plasma	25	24.086	1.339	23.270	0.550	-6.92	5.56	2.36
	75	72.382	6.295	75.172	7.697	0.23	8.70	10.24
	1250	1266.557	128.083	1314.606	78.315	5.17	10.11	5.96
	2000	1964.444	156.255	2008.973	195.293	0.45	7.95	9.72
Liver	25	24.379	2.161	24.797	2.509	-0.81	8.86	10.12
	75	73.571	7.626	77.935	8.017	3.91	10.37	10.29
	1250	1293.203	81.022	1285.281	101.282	2.82	6.27	7.88
	2000	2083.226	156.262	2121.089	199.103	6.05	7.50	9.39
Spleen	25	25.867	2.328	26.155	2.928	4.62	9.00	11.20
	75	75.252	7.573	73.661	4.489	-1.78	10.06	6.09
	1250	1232.957	124.760	1160.230	98.117	-7.18	10.12	8.46
	2000	1927.063	172.693	1802.751	105.849	-9.86	8.96	5.87
Kidney	25	24.847	2.451	27.076	1.792	-8.30	9.87	6.62
	75	72.675	6.283	77.845	7.064	-3.79	8.65	9.07
	1250	1229.420	106.194	1315.119	70.367	-5.21	8.64	5.35
	2000	1952.533	166.721	1924.866	182.076	3.76	8.54	9.46

^aConcentrations of tissues expressed as ng/mL tissue homogenate

Table 3. Extraction recovery of genistein (GEN) and internal standard (IS) in plasma and tissue homogenates.

Matrix		Conc. (ng/mL)	Extraction recovery (%)
plasma	IS	1000	63.66
		75	70.85
	GEN	1250	88.15
		2000	62.01
Liver	IS	1000	64.12
		75	71.07
	GEN	1250	78.21
		2000	64.90
Spleen	IS	1000	67.68
		75	73.79
	GEN	1250	61.25
		2000	64.17
Kidney	IS	1000	78.26
		75	81.98
	GEN	1250	68.00
		2000	67.04

Table 4. Post-extraction stability of genistein in plasma, liver, spleen and kidney.

Matrix	Concentration (ng/mL)	Autosampler stability (24 h)			Autosampler stability (48 h)		
		Measured concentration ^a (ng/mL) (mean ± S.D.)	CV	Accuracy deviation (%)	Measured concentration (ng/mL) (mean ± S.D.)	CV	Accuracy deviation (%)
Plasma	75	66.895±4.374	6.54	-10.81	67.003±10.024	14.96	-10.66
	2000	2147.259±155.458	7.24	7.363	2146.652±86.110	4.01	7.33
Liver	75	65.601±2.002	3.05	-12.53	66.433±2.512	3.78	-11.42
	2000	1909.500±102.596	5.37	-4.53	1840.987±105.199	5.71	-7.95
Spleen	75	75.761±11.137	14.70	-1.015	70.514±8.918	12.65	-5.98
	2000	1923.277±143.488	7.46	-3.84	1854.121±93.723	5.05	-7.29
Kidney	75	71.473±6.672	9.33	-4.70	70.840±2.711	3.83	-5.55
	2000	1933.398±90.734	4.69	-3.33	1907.976±82.530	4.33	-4.60

^aConcentrations of tissues are expressed as ng/mL of tissue homogenate