

Table 1 Linear equation, linear range and limit of detection

Metabolite	Regression equation	Correlation Coefficient (R ²)	Linear range (mg/mL)	Detection limit (mg/mL)
lactic acid	Y=1.0042X+0.0075	0.9998	0.005-2.0	0.0025
succinic acid	Y=1.2624X-0.0064	0.9988	0.005-2.0	0.0025
isocitric acid	Y=1.2345X-0.0170	0.9992	0.005-2.0	0.0025
glucose	Y=1.2047X-0.0032	0.9989	0.005-2.0	0.0010
sorbitol	Y=1.3146X-0.0425	0.9991	0.005-0.5	0.0010
lactose	Y=1.1724X-0.0085	0.9996	0.005-2.0	0.0025

Table 2 The intra-day and inter-day accuracy

Metabolite	intra-day and inter-day accuracy RSD (%)					
	0.025 mg/mL, low		0.1 mg/mL, medium		1.0 mg/mL, high	
	intra-day	inter-day	intra-day	inter-day	intra-day	inter-day
lactic acid	4.52	7.04	3.78	6.67	3.70	7.09
succinic acid	5.24	8.02	4.35	7.88	3.98	7.58
isocitric acid	6.24	8.28	5.78	7.69	5.02	7.74
glucose	5.20	6.89	3.90	6.70	3.86	6.52
sorbitol	6.02	7.98	4.20	7.07	5.08	7.32
lactose	4.81	6.67	3.92	6.51	3.63	6.33

Table 3 Recovery testes and RSD (n=5)

Metabolite	0.025 mg/mL, low		0.1 mg/mL, medium		1.0 mg/mL, high	
	Recovery (%)	RSD (%)	Recovery (%)	RSD (%)	Recovery (%)	RSD (%)
lactic acid	98.32	3.25	105.30	2.51	95.20	3.52
succinic acid	107.1	4.60	95.73	6.04	84.60	2.89
isocitric acid	91.08	3.16	94.46	6.11	92.70	5.43
glucose	96.70	4.78	92.10	5.02	97.20	4.23
sorbitol	86.40	5.43	86.70	3.80	92.90	5.23
lactose	80.10	4.65	90.60	3.45	93.55	3.60

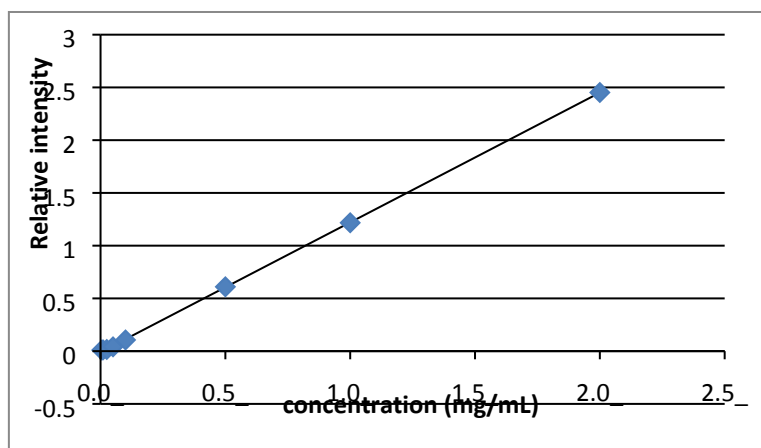


Figure 1 The calibration curve of isocitric acid