Supporting information

Development and validation of a sensitive HPLC-MS/MS method for quantitative and pharmacokinetics study of seven components of *Buddleja lindleyana* Fort.

Xia Zhang[1], Zhiqing Zhang[1], Licang, Zhang[1], Kexin Wang[1], Lantong Zhang[2], Deqiang, Li[1]*

1 Department of Pharmacy, the Second Hospital of Hebei Medical University, Shijiazhuang, China

2 Department of Pharmaceutical Analysis, School of Pharmacy, Hebei Medical University

Corresponding author: Deqiang Li, Department of Pharmacy, the Second Hospital of Hebei Medical University, Shijiazhuang, 050000, P.R. China.

Tel.: 0311-66636302. Mobile phone: 18132685779. E-mail: deqli@163.com

Supplementary material about the validation information on the content analysis

Method validation for quantitative study of *Buddleja lindleyana* Fort.

Matrix effects

The evaluation of matrix effects is a vital issue for the analysis of botanical extracts by HPLC-ESI-MS/MS. Co-eluting compounds originating from matrix can lead to signal enhancement or suppression.[1] The matrix effects of seven components were performed by adding known amounts of the mixed standard solution with the different concentration levels (low, medium and high) to half of the extraction samples and recoding the analyst peak areas of the spiked sample matrix (A), the other half of the extraction sample (B) and the standard solutions (C).[1,2] Moreover, triplicate samples were prepared at each level. Matrix effects were calculated using the following equation: matrix effect (%) = (A-B)/C×100%. The range of sample recovery is 95%-105%, and the RSD value is not more than 5%.

repeatability

The repeatability experiment was performed by preparing for six independent sample solutions of *Buddleja lindleyana* Fort. (Xizang) in parallel. The RSD value was taken as a measure of repeatability. The RSD value of repeatability is not more than 5%.

The result of method validation for quantitative study of *Buddleja lindleyana* Fort.

The results of repeatability and matrix effect were summarized in Table. The matrix effects ranged from 95.01-102.6%, and the RSD values were less than 1.85%. These results indicated that the method possessed high sensitivity and the matrix effects

had no influence.

[1] Y.F. Du, P.W. Liu, Z.F. Yuan, Y.R. Jin, X.W. Zhang, X.N. Sheng, X.W. Shi, Q. Wang and L.T. Zhang, *J. Sep. Sci.*, 2010, **33**, 545-557.

[2] X.W. Shi, Y.B. Wu, T. Lv, Y.F. Wang, Y. Fu, Sun MM, Q.W. Shi, C.H. Huo, Q. Wang and Y.C. Guo, *Anal. Bioanal. Chem.*, 2017, **409**, 4669-4679.

Table Repeatability and matrix effect of seven analytes

Analyte	Repeatability (%)	Matrix effect (%)	RSD (%)
Linarin	2.02	98.55	0.22
		95.32	0.18
		95.14	0.16
Rutin	1.72	95.01	0.34
		102.6	0.26
		99.87	0.25
Luteolin	2.79	101.6	0.37
		97.01	0.11
		96.34	1.03
Quercetin	3.28	98.23	1.17
		97.82	0.65
		99.16	0.98
Apigenin	2.47	101.4	1.12
		100.8	0.72
		99.25	0.64
Acacetin	1.96	96.19	0.76
		101.2	1.34
		99.82	0.98
Acteoside	2.63	95.42	1.28
		97.18	1.11
		102.7	1.85