



## Quality Assessment of *Ginkgo biloba* Extract from Different Manufacturers of Xuzhou City (China) by HPLC-DAD

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**SUMMARY.** Xuzhou City, known as the famous township of *Ginkgo biloba* in China, possesses more than 30 manufacturers producing *Ginkgo biloba* extract (GBE), but the quality of GBE from those producers is different. The objective of this paper was to assess the quality of GBE from ten different manufactures of Xuzhou City. A simple and reliable high-performance liquid chromatography (HPLC) coupled with diode array detector (DAD) method was developed and applied both for multi-ingredients quantification (MIQ) and chromatographic fingerprint analysis (CFA). The chromatographic separations were achieved on an Agilent Zorbax SB-C<sub>18</sub> column (250 mm × 4.6 mm i.d., 5 μm) with a gradient elution using a mixture of acetonitrile and 0.1 % formic acid water solution. In MIQ, linear regressions, limit of detection (LOD) and quantification (LOQ), intra-day and inter-day precisions, recovery, repeatability and stability were all tested and good results were obtained to simultaneously determine the eight flavonoids, namely rutin, myricetin, quercitrin, quercetin, genistein, kaempferol, apigenin, and isorhamnetin. In CFA, 24 peaks were selected as the characteristic peaks, and their relative retention time (RRT) and relative peak area (RPA) were used to evaluate the similarities of different samples. Furthermore, hierarchical cluster analysis (HCA) was also performed to evaluate the variation of GBE. The present approach combining CFA and MIQ is a powerful and meaningful tool to comprehensively conduct the quality control of traditional Chinese medicines.

**KEY WORDS:** Chromatographic fingerprint analysis, *Ginkgo biloba* extract, Hierarchical cluster analysis, High performance liquid chromatography, Multi-ingredients quantification.

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