



Simultaneous Determination of Prodrug of Ginkgolide B and Ginkgolide B in Rat Plasma by LC-MS/MS

Jian PAN, Zeyu WU*, Yuan YUAN, Ailing HUI & Yi YANG

*Institute of Natural Medicine, Hefei University of Technology,
Hefei, 230009, People's Republic of China*

SUMMARY. A simple and sensitive liquid chromatography tandem mass spectrometry (LC-MS/MS) method was established and validated for the determination of prodrug of ginkgolide B (PGB) and its metabolite, ginkgolide B (GB) in rat plasma. The separation was achieved on a Waters Symmetry Shield RP18 column (150 mm × 3.9 mm i.d., 5 μm particle size), using a mobile phase composed of methanol/water with 10 mM ammonium acetate (85:15, v/v) at a flow rate of 800 μL/min in 2 min. An API 3200 triple quadrupole mass spectrometer equipped with electrospray ionization source was operated in negative ionization mode. Multiple reaction monitoring (MRM) was performed to quantify PGB, GB and the internal standard (IS) at m/z transitions of 528.1 → 122.0, 423.4 → 367.3, 407.5 → 351.2, respectively. A good linearity was found. Intra- and inter-day precision, accuracy, extraction recovery, matrix effect and stability were validated to be within an acceptable range. The developed method was successfully applied to a pharmacokinetic study after intravenous administration of a 10 mg/kg dose of PGB to rats.

KEY WORDS: Ginkgolide B, LC-MS/MS, Pharmacokinetics, Plasma, Prodrug of ginkgolide B.

* Author to whom correspondence should be addressed. *E-mail:* wu38331451@163.com