



## Determination of Sodium Danshensu in Rat Plasma by UHPLC-QTOF-MS and Exploration of Q-TOF Application to Quantitative Measurement of Drugs *In Vivo*

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**SUMMARY.** Danshensu, chemical name D-(+) $\beta$ -(3,4-dihydroxyphenyl) lactic acid, is the major water-soluble components of *Radix Salviae Miltiorrhizae* (Danshen). Sodium danshensu is a sodium salt of danshensu. The purpose of this study is to develop a sensitive, rapid and specific ultra-high performance liquid chromatography-quadrupole time-of-flight mass spectrometry (UHPLC-QTOF-MS) method for determination of sodium danshensu in rat plasma and exploration of Q-TOF application to quantitative measurement of drugs *in vivo* by regulating parameter settings including profile, centroid, high resolution and extended dynamic range. The developed method was validated in terms of linearity, sensitivity, selectivity, decision limit, detection capability, accuracy, and precision. Limit of quantitation was estimated in 1 ng/mL. The excellent MS qualitative and quantitative abilities are integrated. It is able to complete structural identification and quantitative measurement of a sample.

**KEY WORDS:** Limit of quantitation, Quadrupole time-of-flight mass spectrometry, Rat plasma, Sodium danshensu, Ultra-high performance liquid chromatography.

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