

## Comparative analysis of glycyrrhizic acid by TLC and HPLC modified with surfactants and organic solvents

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### Abstract

The chromatographic behavior of glycyrrhizic acid (GA) in water-organic, aqueous and modified micellar mobile phases was studied by means of thin-layer chromatography and high-performance liquid chromatography. Basic patterns and behavior features of the sorbate in these systems were revealed. Based on calculating the number of theoretical plates and the height equivalent to a theoretical plate, it is shown that our modified micellar mobile phases can improve the chromatographic process efficiency and the shape of the chromatographic zones of GA as compared to any water-organic eluents. Optimal chromatographic systems and conditions of their use in TLC and HPLC was found. Our techniques were used to analyze glycyrrhizic acid in foods (grape, plum, eggplant, and potato) and herbal medicines (horsetail, kidney tea, and wormwood).