Application Note

High Speed Separation of Glycyrrhizin utilizing UHPLC

Introduction

Glycyrrhizin is the main component of liquorice root and is used as a flavoring in candies, pharmaceuticals and tobacco products.

We examined the applicability of an X-PressPak C18S column (2.1 mm I.D. x 50 mm L.) packed with 2 µm diameter packing material for the ultra-high speed separation of glycyrrhizin. The results were examined to determine whether the performance of the column and chromatography separation exceeds those of conventional HPLC.

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Experimental

The chromatography system utilized in this experiment was a JASCO X-LC system consisting of a 3185PU pump, 3080DG degasser, 3067CO column oven, 3070UV UV/Vis detector, 3059AS auto sampler and a chromatography data system

Results

Figure 1 shows the separation of a standard mixture of glycyrrhizin (0.25 mg/mL) and propyl paraben (0.05 mg/mL). The X-LC system provides an analysis time 10 times shorter than conventional HPLC HPLC while the reproducibility of the peak ratio is 0.16%.These results well exceed those of conventional HPLC.

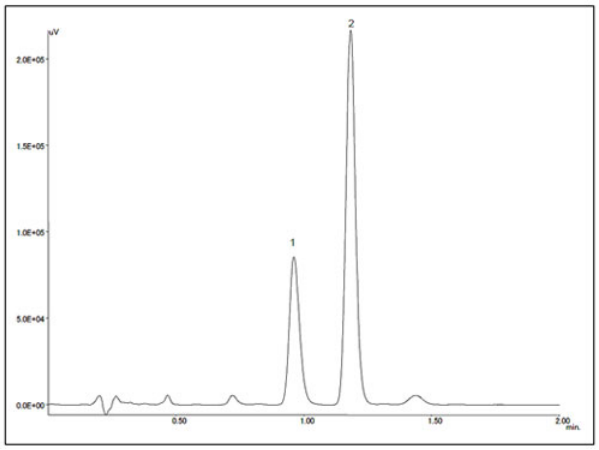

Figure 1 Chromatogram of a standard mixture of glycyrrhizin and propyl paraben. Peaks: 1=glycyrrhizin (0.25 mg/mL), and 2= propyl paraben (0.05 mg/mL)) Chromatographic conditions: column=X-PressPak C18S (2.1 mm I.D. x 50mm L.), mobile phase=2.07% acetic acid/methanol (60/40), flow rate=0.5 mL/min, column temperature = 25°C, detection wavelength=254 nm, injection volume=1 µL.

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