A PRELIMINARY STUDY ON BUPLEURUM FROM DIFFERENT PRODUCING AREAS

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Objective: To collect and evaluate the quality of Bupleurum from different areas, and to provide theoretical basis and support for the wider use of Bupleurum. Methods: Bupleurum chinensis was identified by TLC identification and infrared spectroscopy. The content of total saponins of Bupleurum Chinense was determined by ultraviolet spectrophotometry. Results: Three samples containing saikosaponin A and saikosaponin C, the content is different; saikosaponins in 24 ~ 120 g/mL range showed a good linear relationship; R2 is 0.9990; the average recovery rate was 99.83% of the total saponin of Radix Bupleuri; saikosaponins RSD 1.04%. Conclusion: There are differences in the composition and content of the same species of Bupleurum in different habitat and latitude and longitude.

Key words: Bupleurum saponins, TLC identification, Infrared spectroscopy, Determination of content

1.Objective A wide variety of Bupleurum were identified andevaluatedby infrared spectroscopy, thin layer chromatography and ultraviolet spectrophotometry[1-2].

2.Materials and methods Materials: Saikosaponin a reference substance (batch number: MUST-16033104), saikosaponin c reference substance (batch number: MUST-16032802); the Inner Mongolia Hualuo 201603091 *, Inner Mongolia Hailar 201603092 *, Heilongjiang 201603093 *.

TLC identification: Take the bupleurum sample powder 0.5g, in which 20mL methanol, after sonication for 10min, filtration, the filtrate water bath to about 5mL, as the test solution. Take saikosaponin a and saikosaponin c reference substance, dissolved in methanol, get each 1mL each containing 0.5mg mixed solution, as the reference solution. Draw sample solution and standard solution 5uL, respectively in the same thin layer plate of silica gel G, reagent for ethyl-acetate ethanol water (8:3:1), start out to dry, the reagent was 2% to two dimethylamino benzaldehyde 40% sulfuric acid solution, heating at 60℃to the spot the color is placed, sunlight and UV lamp (365nm) view.

Identification of infrared spectroscopy: Bupleurum sample into the mortar, add liquid nitrogen quickly grinding, over 200 mesh sieve, weighed 1mg sample powder, add the prefinished 100mg potassium bromide powder together grinding, mixing evenly, the Into the fourier infrared instrument, the determination.

Determination of total saponins of bupleurum: First, preparation of test solution and reference stock solution. Weigh Bupleurum powder 0.2g, the ethanol bath reflux extraction twice, each time 1h, twice the amount of alcohol are 10ml filter. After measuring the volume of the filtrate, the water bath was evaporated to dryness, and the same amount of n-butanol was added to the water. The water was saturated with n-butanol and extracted three times, the extracts were combined, dried in water bath and dissolved in methanol, get the test solution. Weigh the saikoside a reference substance 2.05mg, added to the 5mL volumetric flask, add methanol ultrasonic solution, constant volume, shake, get the reference stock solution. Second, linear relationship study. Respectively, the precise amount of reference substance stock solution 0.3,0.6,0.9,1.2,1.5mL to 10mL volumetric flask, methanol was added to volume, shake. The detection wavelength was determined to be 206 nm. The absorbance A was plotted as the ordinate, the concentration of saikosaponin a as the abscissa, and plotted the standard curve. Methodological study of the standard curve. Third, determination of sample content. Take three different batches of Bupleurum extract, according to the requirements, measured and recorded absorbance A value, and calculate the sample of total content of Bupleurum total saponins.

3. Results and conclusion The results of the different origin of Bupleurum the development of the reference substancewere consistent,but the spot size and clarity of different. No.1 of the origin in Inner Mongolia is similar to No.2, and there is a distinct splitting peak at 2925 cm-1, and there is no obvious splitting peak in the area of No.3 in Heilongjiang. The calibration curve of the standard curve was: A = 5.8396C- 0.0667, r2 = 0.9990, the linear relationship was good in the range of 24 ~ 120μg / mL. Samples 1-3 were Bupleurum total saponin content 8.87 (mg / g), 7.54 (mg / g), 6.91 (mg / g).

Total saponin content: Inner Mongolia Hohhot> Inner Mongolia Hailar> Heilongjiang. Combined with TLC and infrared spectroscopy, it was found that the origin of different, latitude and longitude, different ecological environment of the same species of Bupleurum in the composition of the differences are also different.

References

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