# HONEYSUCKLE

This product is the dried flower buds or flowers with just opened of Lonicera japonica Thunb. of the Caprifoliaceae family. It is harvested before the flowers open in early summer and dried.

## 【PROPERTIES】

This product is rod-shaped, thick at the top and thin at the bottom, slightly curved, 2 to 3 cm long, about 3 mm in diameter at the top and about 1.5 mm in diameter at the bottom. The surface is yellow-white or green-white (the color gradually darkens with long storage), densely covered with short soft hairs. Leaf-like bracts are occasionally seen. The calyx is green, with 5 lobes at the tip, and the lobes are hairy and about 2 mm long. The open corolla is tubular, with two lips at the tip; 5 stamens, attached to the tube wall, yellow; 1 pistil, ovary is glabrous. The smell is fresh, and the taste is light and slightly bitter.

## 【IDENTIFICATION】

(1) The powder of this product is light yellow-brown or yellow-green. There are many glandular hairs, the head is inverted cone, sub-round or slightly oblate, with 4-33 cells arranged in 2 to 4 layers, 30 to 64 to 108 μm in diameter, and the stalk has 1 to 5 cells and can reach 700 μm in length. There are two types of non-glandular hairs: one is thick-walled non-glandular hairs, unicellular, up to 900μm long, with fine warty or vesicular protrusions on the surface, some with spirals; the other is thin-walled non-glandular hairs, unicellular, very long, curved or wrinkled, with fine warty protrusions on the surface. The diameter of calcium oxalate cluster crystals is 6 to 45μm. Pollen grains are round or triangular, with fine short thorns and fine granular carvings on the surface, and with 3 holes.

(2) Take 0.2g of this product powder, add 5ml of methanol, let it stand for 12 hours, filter, and take the filtrate as the test solution. Take another chlorogenic acid reference substance, add methanol to make a solution containing 1mg per 1ml, as the reference substance solution. According to the thin layer chromatography method (General Rule 0502), 10 to 20 μl of the test solution and 100 μl of the reference solution are taken and spotted on the same silica gel H thin layer plate, respectively. The upper layer solution of butyl acetate-formic acid-water (7:2.5:2.5) is used as the developing agent, developed, taken out, dried, and inspected under ultraviolet light (365nm). In the chromatogram of the test sample, fluorescent spots of the same color appear at the corresponding positions of the chromatogram of the reference.



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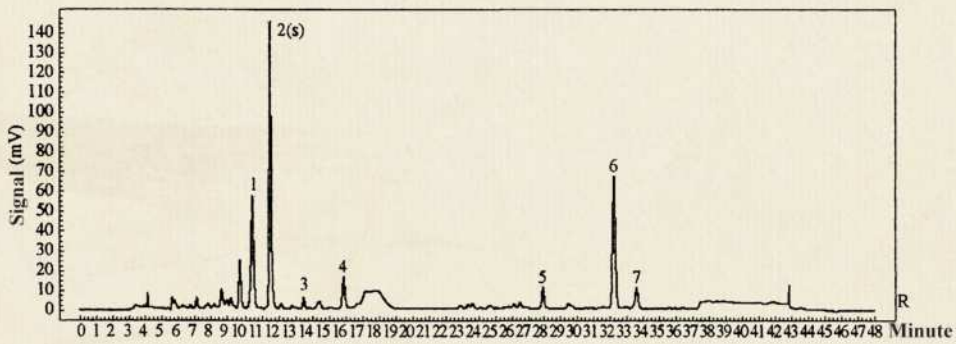
## 【CHARACTERISTIC SPECTRUM】

Determined according to the high performance liquid chromatography method (General Rule 0512).
The chromatographic conditions and system suitability test are the same as those under [Content Determination] Phenolic acids except that the detection wavelength is 240nm.
Preparation of reference solution Take an appropriate amount of chlorogenic acid reference substance, accurately weigh it, and add methanol to make a solution containing 0.40mg per 1ml.
Preparation of test solution is the same as that under [Content Determination] Phenolic acids.
Determination method: Accurately pipette 2R of reference solution and test solution respectively, inject into liquid chromatograph, and determine.

There should be 7 characteristic peaks in the characteristic spectrum of the test sample. The peak corresponding to the reference peak is the S peak. The relative retention time of each characteristic peak and the S peak should be within ±10% of the specified value. The specified retention time values are: 0.91 (peak 1), 100 [peak 2 (S)], 1.17 (peak 3), 1.38 (peak 4), 243 (peak 5), 2.81 (peak 6), 2.93 (peak 7).




COMPARISON CHARACTERISTIC SPECTRUM
7 characteristic peaks Peak 2 (S): Chlorogenic acid; Peak 3: Dangyao glycoside; Peak 4: Bromostrychnoside; Peak 5: (Z)-dimer Bromostrychnoside enal Peak 6: 3,5-di-0-caffeoylquinic acid; Peak 7: 4,5-di-0-caffeoylquinic acid

## 【INSPECTION】

The moisture content shall not exceed 12.0% (General Rule 0832 Method 4).
The total ash content shall not exceed 10.0% (General Rule 2302).
The acid-insoluble ash content shall not exceed 3 0% (General Rule 2302).
Heavy metals and harmful elements shall be determined according to the lead, cadmium, arsenic, mercury and copper determination method (General Rule 2321 Atomic Absorption Spectrophotometry or Inductively Coupled Plasma Mass Spectrometry).
The lead content shall not exceed 5mg/kg; the cadmium content shall not exceed 1mg/kg; the arsenic content shall not exceed 2mg/kg; the mercury content shall not exceed 0.2mg/kg; and the copper content shall not exceed 20mg/kg.

## 【CONTENT DETERMINATION】

Phenolic acids shall be determined according to the high performance liquid chromatography method (General Rule 0512). Chromatographic conditions and system suitability test: Octadecylsilane bonded silica gel was used as filler; acetonitrile was used as mobile phase A, 0.1% phosphoric acid solution was used as mobile phase E, and gradient elution was performed according to the provisions in the following table; the column temperature was not higher than 25°C; the flow rate was 0.7 channels per minute, the detection wavelength was 327 nmo, and the number of theoretical plates calculated based on the chlorogenic acid peak should be not less than 10,000.

| TIME (MIN) | MOBILE PHASE A (%) | MOBILE PHASE E (%) |
|---|---|---|
| 0~8 | 14→19 | 86→81 |
| 8~4 | 19 | 81 |
| 14~34 | 19→31 | 81→69 |
| 34~35 | 31→90 | 69→10 |
| 35~40 | 90 | 10 |

Preparation of reference solution Take appropriate amount of chlorogenic acid reference, 3,5-di-O-caffeoylquinic acid reference and 4,5-di-O-caffeoylquinic acid reference, weigh accurately, place in brown volumetric flask, add 75% methanol to make a solution containing 0.28mg. 0.15mg.44Mg per lnil, and obtain. Preparation of test solution Take about 0.5g of this product powder (passed through No. 4 sieve), weigh accurately, place in a stoppered conical flask, accurately add 75% methanol 50ml, weigh the weight, ultrasonically treat (power 500W, frequency 40kHz) for 30 minutes, cool, weigh again, make up the lost weight with 75% methanol, shake well, filter, and take the filtrate, and obtain. Determination method Accurately aspirate 20% of reference solution and test solution respectively, inject into liquid chromatograph, and determine, and obtain.
This product, calculated on the basis of dry product, contains not less than 1.5% chlorogenic acid (C16H18O9), and contains not less than 3.8% phenolic acid, calculated on the basis of the total amount of chlorogenic acid (C16H18O9), 3,5-di-O-caffeoylquinic acid (C25 H24O12) and 4,5-di-O-caffeoylquinic acid (C25 H24 O12).

Oleum odoratum was determined according to the high performance liquid chromatography method (General Rule 0512).

Chromatographic conditions and system suitability test: phenylsilane bonded silica gel was used as filler (Agilent ZORBAX SB-phenyl 4.6mm X 250mm, 5μm), acetonitrile was used as mobile phase A, 0.5% glacial acetic acid solution was used as mobile phase B, and gradient elution was performed according to the provisions in the following table; the detection wavelength was 350nmo, and the number of theoretical plates calculated based on the oleum odoratum peak should be not less than 20,000.

| TIME (MINUTES) | MOBILE PHASE A (%) | MOBILE PHASE B (%) |
|---|---|---|
| 0~15 | 10→20 | 90→80 |
| 15~30 | 20 | 80 |
| 30~40 | 20→30 | 80→70 |



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Preparation of reference solution Take an appropriate amount of cyperus rotundus reference, weigh it accurately, add 70% ethanol to make a solution containing 40μg per 1ml, and obtain it.
Preparation of test solution Take about 2g of the powder of this product (passed through a No. 4 sieve), weigh it accurately, put it in a stoppered conical bottle, accurately add 50ml of 70% ethanol, weigh it,
ultrasonic treatment (power 250W, frequency 35kHz) for 1 hour, let it cool, weigh it again, make up the lost weight with 70% ethanol, shake it well, and filter it. Accurately measure 10ml of the filtrate, recover the solvent to dryness, dissolve the residue with 70% ethanol, transfer it to a 5ml volumetric bottle, add 70% ethanol to the scale, and obtain it.
Determination method Accurately aspirate 10 secretions of the reference solution and the test solution, inject them into the liquid chromatograph, and determine them.
This product, calculated on the basis of dry product, contains not less than 0.050% cyperus rotundus (C21 H20O11).

## 【NATURE AND FLAVOR AND MERIDIANS】

Sweet, cold. Enters the lung, heart, and stomach meridians.

## 【FUNCTIONS AND INDICATIONS】

Clears heat and detoxifies, dispels wind-heat. Used for carbuncle, furuncle, throat paralysis, erysipelas, dysentery caused by heat toxins, wind-heat cold, and fever caused by febrile diseases.

## 【USAGE AND DOSAGE】

6~15g.

## 【NOTE】

Be cautious when taking for a long time.

## 【STORAGE】

Keep in a cool and dry place, moisture-proof and moth-proof.

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