# NOTOPTERYGIUM WILFORDII

This product is the dried rhizome and root of Notopterygium incisum Ting exH. T. Chang or Notopterygium franchetii H. de Boiss. of the Umbelliferae family. It is dug up in spring and autumn, the fibrous roots and mud are removed, and it is dried in the sun.

## 【 PROPERTIES 】

Notopterygium wilfordii is a cylindrical, slightly curved rhizome, 4 to 13 cm long, 0.6 to 2.5 cm in diameter, with a stem scar at the top. The surface is brown to dark brown, and the outer skin is yellow where it falls off. The internodes are shortened, forming a tightly raised ring, resembling a silkworm, commonly known as "silkworm qiang"; the internodes are elongated, shaped like bamboo nodes, commonly known as "bamboo node qiang". There are many dot-like or tumor-like protruding root scars and brown broken scales on the nodes. It is light, brittle, easy to break, and has an uneven cross section with many cracks. The cortex is yellow-brown to dark brown, oily, with brown oil spots, the wood is yellow-white, the rays are obvious, and the pith is yellow to yellow-brown. It has a fragrant smell and tastes slightly bitter and spicy.Long-leaved Notopterygium wilfordii is a rhizome and root. The rhizome is cylindrical, with the remains of stems and leaf sheaths at the top, and the root is conical, with longitudinal wrinkles and lenticels; the surface is brown, with dense rings near the rhizome, 8 to 15 cm long, 1 to 3 cm in diameter, commonly known as "tiaoqiang". Some rhizomes are thick, irregularly nodular, with several stem bases at the top, and thin roots, commonly known as "big-headed qiang". The texture is brittle, easy to break, the cross section is slightly flat, the bark is light brown, and the wood is yellow-white. The smell is light.

## 【 IDENTIFICATION 】

Take 1g of the powder of this product, add 5ml of methanol, ultrasonically treat for 20 minutes, let it stand, and take the supernatant as the test solution. Take another purple flower peucedanum reference substance, add methanol to make a solution containing 0.5mg per 1ml as the reference solution. According to the thin layer chromatography method (General Rule 0502), 2 to 4 μl of each of the above two solutions are taken and spotted on the same silica gel G thin layer plate prepared with 3% sodium acetate solution, and chloroform-methanol (8:2) is used as the developing agent. Develop, take out, dry, and inspect under ultraviolet light (365nm). In the chromatogram of the test sample, the same blue fluorescent spot appears at the corresponding position of the chromatogram of the reference sample.



Phone / WeChat / WhatsApp: +8618633640012
Mail: 277605659@qq.com Website: www.cn-qihuikang.com

## 【INSPECTION】

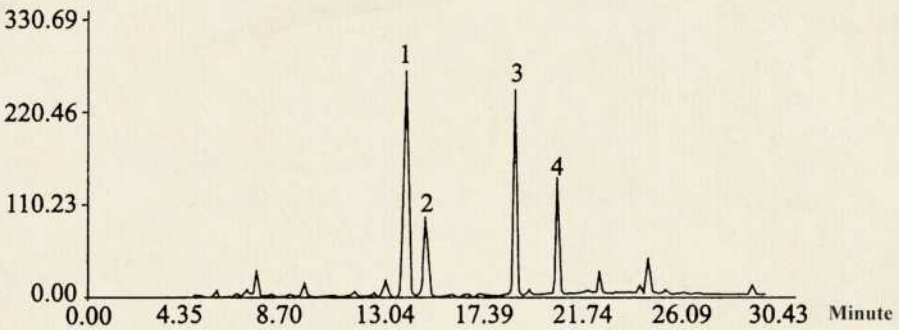
The total ash content shall not exceed 8.0% (General Rule 2302).
Acid insoluble ash shall not exceed 3 0% (General Rule 2302).

## 【CHARACTERISTIC SPECTRUM】

Determine according to the high performance liquid chromatography method (General Rule 0512).
Chromatographic conditions and system suitability test Octadecylsilane bonded silica gel (non-hydrophilic) was used as the filler (column length was 250 mm, inner diameter was 4.6 mm, and particle size was 5 pm); acetonitrile was used as mobile phase A, and 0.1% phosphoric acid solution was used as mobile phase B, and gradient elution was performed according to the provisions in the following table; column temperature was 25°C; detection wavelength was 246 nm. The number of theoretical plates calculated based on the notopterygium alcohol peak should not be less than 18,000.

| TIME (MINUTES) | MOBILE PHASE A (%) | MOBILE PHASE B (%) |
|---|---|---|
| 0~6 | 48→53 | 52→47 |
| 6~12 | 53 | 47 |
| 12~20 | 53→80 | 47→20 |
| 20~30 | 80 | 20 |

Preparation of control extract solution Take 10 mg of notopterygium control extract, accurately weigh it, place it in a 5 ml volumetric flask, add methanol to dissolve and dilute to the scale, shake well, and obtain.
Preparation of test solution Take the test solution under [Content determination] to obtain.
Determination method Accurately aspirate 10μ1 of the reference extract solution and the test solution, inject into the liquid chromatograph, determine, and record the chromatogram to obtain.
The characteristic spectrum of the test product should show chromatographic peaks corresponding to the retention time of the four main characteristic peaks in the reference extract.




Comparison of characteristic spectra
Peak 1: Notopterygium wilfordii alcohol Peak 2: Phenethyl ferulate Peak 3: Isoimperatorin Peak 4: Falcarya diol

## 【EXTRACT】

Determined by hot soaking method under the method for determination of alcohol-soluble extract (General Rule 2201), using ethanol as solvent, the content shall not be less than 15.0%.

### 【CONTENT DETERMINATION】

Volatile oil shall be determined according to the method for determination of volatile oil (General Rule 2204).

This product shall contain not less than 1.4% (ml/g) volatile oil. Qianghuo alcohol and isoimperatorin were 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-water (44:56) was used as mobile phase; the detection wavelength was 310nm.
The theoretical plate number calculated based on the Qianghuo alcohol peak should not be less than 5000. Preparation of reference solution Take appropriate amount of Qianghuo alcohol reference substance and isoimperatorin reference substance, accurately weigh them, add methanol to make a mixed solution containing 60μg of Qianghuo alcohol and 30μg of isoimperatorin per 1ml, and obtain it. Preparation of test solution Take about 0.4g of the powder of this product (passed through No. 3 sieve), accurately weigh it, put it in a stoppered conical flask, accurately add 50ml of methanol, weigh it, ultrasonically treat it (power 250W, frequency 50kHz) for 30 minutes, let it cool, weigh it again, make up the lost weight with methanol, shake it well, filter it, and take the filtrate to obtain it. Determination method Accurately pipette 5μ1 of the reference solution and 5~10μ1 of the test solution, inject into the liquid chromatograph, and measure. The total amount of qianghuo alcohol (C21H22O5) and isoimperatorin (C16 H14O4) in this product, calculated on the basis of dry product, shall not be less than 0.40%.

## DECOCTION PIECES

### 【PROCESSING】

Remove impurities, wash, moisten thoroughly, cut into thick slices, and dry.

### 【PROPERTIES】

This product is in the form of circular, irregular cross-section or oblique slices, with brown to dark brown epidermis, brown outer surface of the cut surface, yellow-white wood, and some with visible radial textures. It is light and crisp. It has a fragrant smell and tastes slightly bitter and pungent.

### 【INSPECTION】

The moisture content shall not exceed 9.0% (General Rule 0832 Method 4).

### 【IDENTIFICATION】 【INSPECTION】 (TOTAL ASH CONTENT ACID INSOLUBLE ASH) 【CHARACTERISTIC SPECTRUM】

【Extract】 【Content determination】
Same as medicinal material.

### 【NATURE AND FLAVOR AND MERIDIANS】

Spicy, bitter, warm. Enters bladder and kidney meridians.

### 【FUNCTIONS AND INDICATIONS】

Relieves cold, dispels wind and dampness, relieves pain. Used for colds, headaches, stiff neck, rheumatic pain, shoulder and back pain.

### 【USAGE AND DOSAGE】

3~10g.

### 【STORAGE】

Store in a cool and dry place to prevent moth.



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