

ANGELICA



This product is the dried root of *Angelica sinensis* (Oliv.) Diels, a plant of the Umbelliferae family. It is dug up in late autumn, the fibrous roots and sand are removed, and after the water evaporates slightly, it is tied into small bundles, put on a shed, and slowly dried with fireworks.

【 PROPERTIES 】

This product is slightly cylindrical, with 3 to 5 or more lateral roots at the bottom, 15 to 25 cm long. The surface is light brown to brown, with longitudinal wrinkles and long horizontal lenticel-like protrusions. The root head (guitou) has a diameter of 1.5 to 4 cm, with annular marks, the upper end is rounded and blunt, or with several obvious protruding rhizome marks, with purple or yellow-green stem and leaf sheath residues; the main root (guishen) has an uneven surface; the lateral root (guiwei) has a diameter of 0.3 to 1 cm, is thick at the top and thin at the bottom, is mostly twisted, and has a few fibrous root marks. The texture is flexible, with a yellow-white or light yellow-brown cross section, thick cortex, cracks and many brown dot-shaped secretion cavities, lighter wood color, and yellow-brown cambium ring. It has a strong aroma and tastes sweet, spicy, and slightly bitter. Those with large firewood, dry and oilless, or green-brown cross section cannot be used for medicinal purposes.

【 IDENTIFICATION 】

(1) Cross section of this product: The cork layer is composed of several rows of cells. The inner layer of the cork is narrow, with a few oil chambers. The phloem is broad and fissured, with oil chambers and oil tubes that are circular, 25 to 160 μm in diameter, larger on the outside and gradually smaller inward, surrounded by 6 to 9 secretory cells. The cambium is ring-shaped. The xylem rays are 3 to 5 rows of cells wide; the vessels are scattered singly or 2 to 3 are gathered together and arranged radially; the thin-walled cells contain starch grains. The powder is light yellow-brown. The phloem thin-walled cells are spindle-shaped, with slightly thick walls, and very fine oblique interlaced textures on the surface, and sometimes thin transverse septa can be seen. Scalar vessels and reticulate vessels are common, with a diameter of about 80 μm . Sometimes oil chamber fragments can be seen.

(2) Take 0.5 g of the powder of this product, add 20 ml of acetyl, ultrasonically treat for 10 minutes, filter, evaporate the filtrate to dryness, add 1 ml of ethanol to dissolve the residue, and use it as the test solution. Take 0.500 of *Angelica sinensis* control medicinal material and prepare the control medicinal material solution in the same way. According to the thin layer chromatography method (General Rule 0502), 100 ml of each of the above two solutions were taken and spotted on the same silica gel G thin layer plate, and developed with n-hexane-ethyl acetate (4:1), taken out, dried, and examined under ultraviolet light (365 nm). In the chromatogram of the test sample, fluorescent spots of the same color appeared at the corresponding positions of the chromatogram of the reference medicinal material.

(3) Take 3g of the powder of this product, add 50ml of 1% sodium bicarbonate solution, ultrasonically treat for 10 minutes, centrifuge, take the supernatant and adjust the pH value to 2-3 with dilute hydrochloric acid, shake and extract with acetaldehyde twice, 20ml each time, combine the acetic acid solution, evaporate to dryness, add 1ml of methanol to the residue to dissolve, and use it as the test solution. Separately take the ferulic acid reference substance and the ligustilide reference substance, add methanol to make a solution containing 1mg of each per 1ml, and use it as the reference solution.

According to the thin layer chromatography method (General Rule 0502), 10R of each of the above three solutions were taken and spotted on the same silica gel G thin layer plate, and cyclohexane-dichloromethane-ethyl acetate-formic acid (4:1:1:0.1) was used as the developing agent. After development, the plate was taken out, dried, and inspected under ultraviolet light (365nm). In the chromatogram of the test sample, fluorescent spots of the same color appeared at the corresponding positions of the chromatogram of the reference sample.

【 INSPECTION 】

Water content shall not exceed 15.0% (General Rule 0832 Method 4).

Total ash content shall not exceed 70% (General Rule 2302).

Acid insoluble ash content shall not exceed 20% (General Rule 2302).

Heavy metals and harmful elements are determined according to the lead, cadmium, arsenic, mercury and copper determination method (General Rule 2321 atomic absorption spectrophotometry or inductively coupled plasma mass spectrometry). Lead shall not exceed 5mg/kg; cadmium shall not exceed 1mg/kg; arsenic shall not exceed 2mg/kg; mercury shall not exceed 0.2mg/kg; copper shall not exceed 20mg/kg.

【 EXTRACT 】

Determined according to the hot leaching method under the alcohol-soluble extract determination method (General Rule 2201), using 70% ethanol as solvent, and shall not be less than 45.0%.

【 CONTENT DETERMINATION 】

Volatile oil is determined according to the volatile oil determination method (General Rule 2204 Method B).

This product contains not less than 0.4% (ml/g) of volatile oil.

Ferulic acid is determined according to high performance liquid chromatography (General Rule 0512).

Chromatographic conditions and system suitability test Octadecylsilane bonded silica gel is used as filler; acetonitrile-0.085% phosphoric acid solution (17:83) is used as mobile phase; detection wavelength is 316nm; column temperature is 35°C, and the

theoretical plate number calculated according to the ferulic acid peak should be not less than 5000. Preparation of reference solution

Take an appropriate amount of ferulic acid reference, accurately weigh it, put it in a brown volumetric bottle, add 70% methanol to make a solution containing 12μg per 1ml, and the solution is obtained. Preparation of test solution Take about 0.2g of the powder of this product (passed through No. 3 sieve), accurately weigh it, put it in a stoppered conical bottle, accurately add 20ml of 70% methanol, stopper it, weigh it, heat and reflux for 30 minutes, cool it, weigh it again, make up the lost weight with 70% methanol, shake it well, let it stand, take the supernatant to filter, and take the filtrate to obtain it. Determination method: Accurately pipette 10R of reference solution and test solution respectively, inject into liquid chromatograph, and determine. This product contains not less than 0.050% of ferulic acid (C10 H10 O4) calculated on the basis of dry product.

MEDICINAL SLICES

【 PROCESSING 】

Danggui Remove impurities, wash, moisten thoroughly, cut into thin slices, dry in the sun or dry at low temperature.

【 PROPERTIES 】

This product is in the form of quasi-circular, oval or irregular thin slices. The outer skin is light brown to brownish brown. The cut surface is light brown or yellowish white, flat, with cracks, with a light brown cambium ring in the middle, and many brown oil spots, with a strong aroma, sweet, spicy, and slightly bitter taste.

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【 IDENTIFICATION 】 (EXCEPT FOR CROSS SECTION) 【 INSPECTION 】 【 EXTRACT 】

Same as the medicinal material.

Danggui in wine Take clean angelica slices and fry them dry according to the wine roasting method (General Rule 0213).

【 PROPERTIES 】

This product is shaped like angelica slices. The cut surface is dark yellow or light brown with slight burn spots. The aroma is strong and has a slight wine aroma.

【 INSPECTION 】

Water content is the same as the medicinal material, not more than 10.0%.

【 EXTRACT 】

The same as the medicinal material, not less than 50.0%.

【 IDENTIFICATION 】 (EXCEPT THE CROSS SECTION) 【 INSPECTION 】 (TOTAL ASH ACID INSOLUBLE ASH)

The same as the medicinal material.

【 NATURE AND FLAVOR AND MERIDIANS 】

Sweet, spicy, warm. It enters the liver, heart, and spleen meridians.

【 FUNCTIONS AND INDICATIONS 】

Tonify blood and activate blood circulation, regulate menstruation and relieve pain, moisten the intestines and relieve constipation. It is used for blood deficiency and sallow complexion, dizziness and palpitations, irregular menstruation, amenorrhea and dysmenorrhea, abdominal pain due to deficiency and cold, rheumatism and arthralgia, injuries from falls and bruises, carbuncles and ulcers, and constipation caused by dry intestines. Wine angelica activates blood circulation and regulates menstruation. It is used for amenorrhea and dysmenorrhea, rheumatism and arthralgia, and injuries from falls and bruises.

【 USAGE AND DOSAGE 】

6~12g.

【 STORAGE 】

Place in a cool and dry place, away from moisture and insects.

