bleeding during pregnancy; Dipsaci Radix (processed with wine) is usually used for painful impediment caused by wind-dampness, injuries from falls, sinew injury and fracture. Dipsaci Radix (processed with salt) is usually used for soreness and weakness in the lower back and knees.

Administration and Dosage 9-15 g.

Storage Preserve in a dry place, and protect from moth.

Draconis Sanguis
(血竭, Xuejie)
Dragon's Blood

Dragon's Blood is the prepared resin of the fruit of *Daemonorops draco* Bl. (Fam. Palmae).

Description Slightly sub-rounded square or square, externally dark red, lustrous, attached with friction-caused red colour. Texture hard and fragile, broken surface red; ground powder brick red. Odour, slight; taste, weak. Insoluble in water, softened in hot water.

Identification (1) Add the powder to a piece of white paper, melt heating at a distance from the fire, but show no spreading oil stains, present bright red. It turns irritating smell being burnt.

(2) To about 0.1 g of the powder add 10 ml of ether, stopper tightly, shake for 10 minutes, filter, collect the filtrate as the test solution. Prepare a solution of 0.1 g of Draxonis Sanguis reference drug in the same manner as the reference drug solution. Carry out the method for thin layer chromatography ⟨*0502*⟩, using silica gel G as the coating substance and a mixture of chloroform and methanol (19 : 1) as the mobile phase. Apply separately to the plate 10-20 μl of each of the test solution, reference drug solution and dracorhodin perchlorate CRS solution (as the reference solution, see *Assay*). After developing and removal of the plate, dry in air. The orange spot in the chromatogram obtained with the test solution corresponds in position and colour to the spot in the chromatogram obtained with the reference drug solution and reference solution.

(3) To about 0.5 g of the coarse powder add 10 ml of ether, stopper tightly, shake for 10 minutes, filter, add 5 ml of dilute hydrochloric acid to the filtrate, mix well, a brownish-yellow precipitate is separated out, allow to stand for a while, then turn into brownish-black resin-like substance gradually. Wash the resin-like substance with 10 ml of hydrochloride acid for several times, discard the washings, add 10 ml of 20% potassium hydroxide, grind, add 5 ml of chloroform and then transfer to a separating funnel, shake, chloroform layer turns red, take the chloroform layer as the test solution. Prepare a solution of Draxonis Sanguis reference drug in the same manner, and use it as the reference drug solution. Carry out the method for thin layer chromatography ⟨*0502*⟩, using silica gel G as the coating substance and a mixture of chloroform and methanol (19 : 1) as the mobile phase. Apply separately to the plate 10-20 μl of each of the two solutions. After developing and removal of the plate, dry in air. The orange spot in the chromatogram obtained with the test solution corresponds in position and colour to the spot in the chromatogram obtained with the reference drug solution.

Total ash Not more than 6.0 per cent ⟨*2302*⟩.

Rosin To 0.2 g of the powder add 25 ml of ethanol, ultrasonicate for 15 minutes, filter, and use the filtrate as the test solution. Dissolve a quantity of abietic acid CRS in ethanol to produce a solution containing 1 mg per ml as the reference solution. Carry out the method for thin layer chromatography ⟨*0502*⟩, using silica gel GF_{254} as the coating substance and a mixture of petroleum ether (60-90℃), ethyl acetate and glacial acetic acid (9 : 1 : 0.1) as the mobile phase. Apply separately 2 μl of the test solution and 5 μl of the reference solution to the plate. After developing and removal of the plate, dry in air, and examine under ultraviolet light at 254 nm. The spot in the chromatogram obtained in the test solution should not correspond in position and colour to the spot in the chromatogram obtained with the reference solution. Spray with a 10% sulfuric acid in ethanol, heat at 105℃ to spot distinct, and examine under ultraviolet light at 365 nm. The bluish-white fluorescence spot in the chromatogram obtained in the test solution should not correspond in position and colour to the spot in the chromatogram obtained with the reference solution.

Ethanol-insoluble matter Weigh accurately about 2 g of the powder in a weighed filter paper tube, put into Soxhlets extractor, add 200-400 ml of ethanol, reflux untill the extract is colourless. Take out the filter paper tube, evaporate the ethanol, dry at 105℃ for 4 hours, weigh accurately and calculate, not more than 25.0%.

Assay Carry out the method for high performance liquid chromatography ⟨*0512*⟩.

Chromatographic system and system suitability Use octadecylsilane bonded silica gel as the stationary phase and a mixture of acetonitrile and 0.05 mol/L sodium dihydrogen phosphate solution (50 : 50) as the mobile phase. The detection wavelength is 440 nm; column temperature is 40℃. The number of theoretical plates of the column is not less than 4000, calculated with the reference to the peak of dracorhodin.

Reference solution Weigh accurately 9 mg of dracorhodin perchlorate CRS in a 50 ml brown volumetric flask, add 10 ml of 3% phosphoric acid in methanol to dissolve and dilute to the volume, mix well, and use as the reference solution (containing 26 μg of dracorhodin per ml, the weight of dracorhodin is equivalent to 1/1.377 of the weight of dracorhodin perchlorate).

Test solution Weigh accurately 0.05-0.15 g of the powder in a stoppered flask, add accurately 10 ml of the 3% phosphoric acid in methanol, stopper tightly, shake for 3 minutes, filter, transfer accurately 1 ml of the subsequent filtrate to a 5 ml brown volumetric flask, add methanol and dilute to the volume and use as the test solution.

Procedure Inject accurately 10 μl of each of the reference solution and the test solution, respectively, into the column, and calculate the content.

It contains not less than 1.0% of dracorhodin ($C_{17}H_{14}O_3$).

Prepared slices

Processing Eliminate the dust, break into small pieces or grind into fine powder.

Property and Flavor Neutral; sweet and salty.

Meridian tropism Heart and liver meridians.

Actions To activate blood, relieve pain, resolve stasis, stanch bleeding, promote tissue regeneration and promote wound healing.

Indications Traumatic injuries, stasis and pain in the heart and abdomen, traumatic bleeding, unhealing sore and ulcer.

Administration and Dosage Ground into powder, 1-2 g, or used in pills. For topical application: ground into powder for spreading or used in paste.

Storage Preserve in a cool and dry place.

Drynariae Rhizoma
(骨碎补, Gusuibu)

Fortune's Drynaria Rhizome

Fortune's Drynaria Rhizome is the dried rhizome of *Drynaria fortunei* (Kunze) J. Sm. (Fam. Polypodiaceae). The drug is collected all year round, removed from soil and dried, or burned off the hairs (ramenta).

Description Flattened long slat-shaped, mostly curved, branched, 5-15 cm long, 1-1.5 cm wide, 2-5 mm thick. The surface closely covered with dark brown hairy ramenta, and the burnt ones brown or dark brown, the upper surface and both sides marked by raised or depressed circular frond scars, rarely by remains of frond-bases and fibrous roots. Texture light, fragile, easily broken, fracture reddish-brown, meristeles yellow dotted and arranged in a ring. Odour, slight; taste, weak and slightly astringent.

Identification (1) Transverse section: Epidermal cells 1 layer, the outer walls slightly thickened. The base of ramenta growing in dents of epidermis, consisting of 3-4 rows of cells; lumen containing brownish-red pigments. 17-28 amphicribral vascular bundles, arranged in a ring and surrounded by endodermis. Casparian dots visible. Xylem tracheids subpolygonal.

Powder: Dark brown. Broken ramenta brownish-yellow or brownish-red, body cells elongated stripe-shaped or irregular, 13-86 μm in diameter, walls slightly curved or straight, villiform on the margin, 2- celled seriate, separated at the apex; stalk cells irregular. Parenchymatous cells slightly lignified, with distinct pit-canals, 37-101 μm in diameter.

(2) Heat 0.5 g of the powder in 30 ml of methanol under reflux for 1 hour, cool, and filter. Evaporate the filtrate to dryness, and dissolve the residue in 1 ml of methanol as the test solution. Prepare a solution with 0.5 g of Drynariae Rhizoma reference drug in the same manner as the reference drug solution. Dissolve naringin CRS in methanol to produce a solution containing 0.5 mg per ml as the reference solution. Carry out the method for thin layer chromatography ⟨*0502*⟩, using silica gel G as the coating substance and the upper layer of a mixture of toluene, ethyl acetate, formic acid and water (1 : 12 : 2.5 : 3) as the mobile phase. Apply separately 4 μl of each of the above three solutions to the plate. After developing and removal of the plate, dry in air. Spray with aluminium chloride TS, and examine under ultraviolet light at 365 nm. The fluorescent spots in the chromatogram obtained with the test solution correspond in position and colour to the spots in the chromatogram obtained with the reference drug solution and the reference solution.

Water Not more than 15.0 per cent ⟨*0832*, *method 2*⟩.

Total ash Not more than 8.0 per cent ⟨*2302*⟩.

Extractives Carry out the method for determination of ethanol-soluble extractives ⟨*2201*, *the hot extraction method*⟩, using dilute ethanol as the solvent, not less than 16.0 per cent.

Assay Carry out the method for high performance liquid chromatography ⟨*0512*⟩.

Chromatographic system and system suitability Use octadecylsilane bonded silica gel as the stationary phase and a mixture of methanol, acetic acid and water (35 : 4 : 65) as the mobile phase. The detection wavelength is 283 nm. The number of theoretical plates of the column is not less than 3000, calculated with the reference to the peak of naringin.

Reference solution Weigh accurately a quantity of naringin CRS, dissolve in methanol to produce a solution containing 60 μg per ml.

Test solution Weigh accurately 0.25 g of the coarse powder, add 30 ml of methanol, heat under reflux on a water bath for 3 hours, cool, and filter. Transfer the filtrate to a 50 ml volumetric flask, wash the container with a small quantity of methanol for several times, filter the washings to the same flask, dilute with methanol to volume, and mix well.

Procedure Inject accurately 10 μl of each of the reference solution and the test solution, respectively, into the column, determine and calculate the content.

It contains not less than 0.50 per cent of naringin ($C_{27}H_{32}O_{14}$), calculated with reference to the dried drug.

Prepared slices

Processing *Drynariae Rhizoma* Eliminate foreign matter, wash clean, soften thoroughly, cut into thick slices, and dry.

Description In irregular thick slices. Externally dark brown to brown, often with remains of brown fine ramenta, sometimes circular frond scars visible. Cut surface reddish-brown, yellow dotted meristeles in a ring. Odour slight; taste weak and slightly astringent.

Identification As required for the crude drug except for the transverse section.

Water Not more than 14.0 per cent, following the method for the crude drug.

Total ash Not more than 7.0 per cent, following the method for the crude drug.

Extractives As required for the crude drug.

Assay As required for the crude drug.

Drynariae Rhizoma (scalding) Scald the clean Drynariae Rhizoma or its slices with sand as described under the method for scalding ⟨*0213*⟩ until inflated, and strike to remove hairs.

Description The shape similar to the crude drug or the slices, externally yellowish-brown to dark brown, bodies inflated, texture light and loose.

Identification (2) As required for the crude drug.

Water Not more than 13.0 per cent, following the method for the crude drug.

Total ash Not more than 10.0 per cent, following the method for the crude drug.

Extractives As required for the crude drug.

Assay It contains not less than 0.40 per cent of naringin ($C_{27}H_{32}O_{14}$), following the method for the crude drug.

Property and Flavor Warm; bitter.

Meridian tropism Liver and kidney meridians.