

**Description** Irregular, somewhat thin and long fusiform to conical root, often branched; externally grayish brown, light brown or white; main root 10–15 cm in length, 1–3 cm in diameter; the upper end, with dented scars of removed stems; the neighborhood, with fine lateral wrinkles and longitudinal furrows and also slightly constricted; the greater part of the root, except the crown, covered with coarse longitudinal wrinkles, lateral furrows and lenticel-like lateral lines; hard in texture, but brittle; fractured surface not fibrous, often with cracks. Under a magnifying glass, a transverse section reveals cambium and its neighborhood often brown in color; cortex slightly thinner than xylem, almost white and with scattered cracks; xylem white to light brown in color, and the tissue slightly denser than cortex. Odor, slight; tasteless at first, later acrid and bitter.

**Identification (1)** Boil 0.5 g of pulverized Platycodon Root with 10 mL of water for a while, allow to cool, and shake the mixture vigorously: a lasting fine foam is produced.

**(2)** Warm 0.2 g of pulverized Platycodon Root with 2 mL of acetic anhydride on a water bath for 2 minutes, and filter. To 1 mL of the filtrate add carefully 0.5 mL of sulfuric acid to make two layers: a red to red-brown color develops at the zone of contact, and the upper layer acquires a blue-green to green color.

**Total ash** Not more than 4.0%.

**Extract content** Dilute ethanol-soluble extract: not less than 25.0%.

## Powdered Platycodon Root

### *Platycodi Radix Pulverata*

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Powdered Platycodon Root is the powder of Platycodon Root.

**Description** Powdered Platycodon Root occurs as a light grayish yellow to light grayish brown powder. It has a slight odor, and is tasteless at first, later acrid and bitter.

Under a microscope, Powdered Platycodon Root reveals numerous fragments of colorless parenchyma cells; fragments of reticulate vessels and scalariform vessels; fragments of sieve tubes and lactiferous tubes; fragments of cork layer are sometimes observed. Usually, starch grains are not observed, but very rarely simple grain.

**Identification (1)** Boil 0.5 g of Powdered Platycodon Root with 10 mL of water for a while, allow to cool, and shake the mixture vigorously: a lasting fine foam is produced.

**(2)** Warm 0.2 g of Powdered Platycodon Root with 2 mL of acetic anhydride on a water bath for 2 minutes, and filter. To 1 mL of the filtrate add carefully 0.5 mL of sulfuric acid to make two layers: a red to red-brown color develops at the zone of contact, and the upper layer acquires a blue-green to green color.

**Purity** Foreign matter—Under a microscope, Powdered Platycodon Root does not show fibers, stone cells or other

foreign matter.

**Total ash** Not more than 4.0%.

**Acid-insoluble ash** Not more than 1.0%.

**Extract content** Dilute ethanol-soluble extract: not less than 25.0%.

## Live Oral Poliomyelitis Vaccine

経口生ポリオワクチン

Live Oral Poliomyelitis Vaccine contains live attenuated poliovirus of type I, II and III.

Monovalent or bivalent product may be prepared, if necessary.

Live Oral Poliomyelitis Vaccine conforms to the requirements of Live Oral Poliomyelitis Vaccine in the Minimum Requirements for Biological Products.

**Description** Live Oral Poliomyelitis Vaccine is a light yellow-red to light red, clear liquid.

## Polygala Root

### *Polygalae Radix*

オンジ

Polygala Root is the root of *Polygala tenuifolia* Willdenow (*Polygalaceae*).

**Description** Thin, long and bent, cylindrical or tubular root; main root, 10–20 cm in length, 0.2–1 cm in diameter, sometimes with one to several lateral roots; externally light grayish brown, with coarse longitudinal wrinkles, and with deep lateral furrows cracked to some degree here and there; brittle, and fractured surface not fibrous; margin of the transverse section irregularly undulate; cortex, comparatively thick, with large cracks here and there; xylem usually round to elliptical, light brown in color, and often tears in a wedge-like shape. Odor, slight; taste, slightly acrid.

**Identification (1)** Shake vigorously 0.5 g of pulverized Polygala Root with 10 mL of water: a lasting fine foam is produced.

**(2)** To 0.5 g of pulverized Polygala Root add 2 mL of acetic anhydride. After shaking well, allow to stand for 2 minutes, and filter. To the filtrate add carefully 1 mL of sulfuric acid to make two layers: a red-brown color develops at the zone of contact, and changes to dark green.

**Purity (1)** Stem—The amount of the stems contained in Polygala Root does not exceed 10.0%.

**(2)** Foreign matter—The amount of foreign matter other than the stems contained in Polygala Root does not exceed 1.0%.

**Total ash** Not more than 6.0%.