

Distribution: Khovs., Khent., Khang., Mong-Dag., Mong Alt., Khovd, Gobi-Alt.

Habitat: Forests, forest fringes in mountain forest-steppe and alpine belts [2–5].

Part used: Herb

Traditional Uses: The taste is bitter and the potency is cool, blunt, light, and severe. It is used for the following: Treatment of head, breast, joint, and bone wounds, bacterial fever, and fever from anthrax; also treats anuria. It is an ingredient of the following traditional prescriptions: Banzi-12, Dinman-12, Jonlan-12, Menbo-9, Tsalgar-7, Numadanjug, and extract of Dagsh [5–7].

Microscopic characteristics:

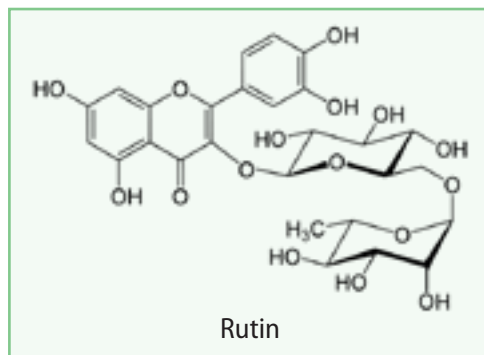
Leaf: Palysade parenchyma consists of 4–6 layers of cells containing chlorophyll. Outer epidermal walls slightly thick and wavy. Stomata is the anomocytic type. Glandular trichome long, branched.

Petiole: The transverse section is triangular. Inner side of epidermis consists of layers parenchyma containing chlorophyll. Vascular bundle 7, collateral type with sclerenchyma cells, well-developed. Epidermis has glandular and non-glandular trichomes.

Stem: The transverse section is round. Outer epidermis covered with thick cuticle. Inner side of epidermis consists of 5–11 layers parenchyma. Parenchyma is round and scattered. Vascular bundle collateral type [8].

Chemical constituents: Herb contains flavonoids: quercetin [9], 5.42% rutin [9,10].

Qualitive and quantitative assays: Flavonoids in herb are identified by the cyanidin reaction and TLC. The following is a suitable TLC procedure to identify flavonoid: silica gel, butanol-acetic acid-water (4:1:2) solvent system. The spot with the same R_f as reference rutin is observed under UV lamp and after spraying with detection reagent. Total flavonoid content is determined by chromato-spectrophotometry at 363 nm [8].



Qualitive and quantitative standards: Loss on drying, 10.0%. Ash, not more than 8.0%. Organic matter, not more than 1.0% and mineral matter, not more than 1.0%. Rutin content, not less than 2.0% [8].

Bioactivity: Antioxidant [9].