

Radix Platycodonis

Platycodon Root is the dried root of *Platycodon grandiflorum* (Jacq.) A. DC. (Fam. Campanulaceae). Treatment of upper respiratory infections, acute and chronic bronchitis, atopic dermatitis and other skin diseases.

The herb *Platycodonis Radix*, which has been used for chronic inflammatory diseases for centuries in China, contains platycodin D (PD) as one of its main active constituents. PD exhibited anti-inflammatory, anti-allergic, cholesterol-lowering and neuroprotective properties [1], and exerted remarkable anti-cancer effects on different kinds of cancer cell lines, such as HepG2, MDA-MB-231, U937, K562, and THP-1 etc., by promoting apoptosis, inducing cell cycle arrest, and inhibiting the migration and invasion of cancerous cells [2-5]. Reducing the telomerase activity [3], increasing reactive oxygen species [6], suppressing the epidermal growth factor receptor-mediated Akt and mitogen-activated protein kinase activation [4], and activating the caspase pathway [7] were suggested involved in the anti-cancer mechanism of PD.

Names

Korean bellflower, Chinese bellflower, Japanese bellflower, common balloon flower, or balloon flower and Blue balloon flower

Ayurveda:

Bellflower (*Platycodon Grandifloras*)

The roots of this herb are used as an antitussive agent, a substance that suppresses coughs. It is used to treat tonsillitis, asthma and pertussis, among other things.

REFERENCES:

- [1]. Lee H, Bae S, Kim YS, Yoon Y: WNT/beta-catenin pathway mediates the anti-adipogenic effect of platycodin D, a natural compound found in *Platycodon grandiflorum*. *Life Sci* 2011, 89:388–394.
- [2]. Kim MO, Moon DO, Choi YH, Lee JD, Kim ND, Kim GY: Platycodin D induces mitotic arrest in vitro, leading to endoreduplication, inhibition of proliferation and apoptosis in leukemia cells. *Int J Cancer* 2008, 122:2674–2681.
- [3]. Kim MO, Moon DO, Choi YH, Shin DY, Kang HS, Choi BT, Lee JD, Li W, Kim GY: Platycodin D induces apoptosis and decreases telomerase activity in human leukemia cells. *Cancer Lett* 2008, 261:98–107.
- [4]. Chun J, Kim YS: Platycodin D inhibits migration, invasion, and growth of MDA-MB-231 human breast cancer cells via suppression of EGFR-mediated Akt and MAPK pathways. *Chem Biol Interact* 2013, 205:212–221.
- [5]. Li T, Xu WS, Wu GS, Chen XP, Wang YT, Lu JJ: Platycodin D Induces Apoptosis, and Inhibits Adhesion, Migration and Invasion in HepG2 Hepatocellular Carcinoma Cells. *Asian Pac J Cancer Prev* 2014, 15:1745–1749.
- [6]. Shin DY, Kim GY, Li W, Choi BT, Kim ND, Kang HS, Choi YH: Implication of intracellular ROS formation, caspase-3 activation and Egr-1 induction in platycodin D-induced apoptosis of U937 human leukemia cells. *Biomed Pharmacother* 2009, 63:86–94.
- [7]. Chun J, Joo EJ, Kang M, Kim YS: Platycodin D induces anoikis and caspase-mediated apoptosis via p38 MAPK in AGS human gastric cancer cells. *J Cell Biochem* 2013, 114:456–470.