



Oldenlandia diffusa

Health Care Professional Information

Scientific Name

Oldenlandia diffusa (a.k.a. *Hedyotis diffusa*)

Common Name

Bai Hua She She Cao, Herba Oldenlandiae (dried/powder form of *Oldenlandia diffusa*), Snake-Needle Grass

Clinical Summary

Oldenlandia diffusa, an herb prevalent in East Asia and Southern China, is used in traditional Chinese medicine to clear “heat” and to eliminate “toxins”. It is used in combination with other herbs for the treatment of hepatitis, snake bite ⁽¹⁾, tumors of the liver, lung, stomach ⁽¹⁾, and rectum ⁽²⁾.

Studies conducted in vitro and in animals suggest that *O. diffusa* possesses anticancer and chemopreventive properties ⁽²⁾ ⁽³⁾ ⁽⁴⁾ ⁽⁵⁾ ⁽⁶⁾. Oleanolic and Ursolic acids, compounds isolated from *O. diffusa*, demonstrated cytotoxic activity ⁽⁷⁾ ⁽⁸⁾ ⁽¹¹⁾ ⁽¹²⁾. Ursolic acid also showed anti-inflammatory effects in mice with rheumatoid arthritis ⁽⁹⁾.

Human data are lacking.

Purported Uses

- Hepatitis
- Cancer treatment
- Snake bite
- Arthritis
- High Cholesterol

Constituents

- Triterpenoids: Urosolic acid, Oleanolic acid
- Asperuloside (IG1), E-6-O-p-coumaroyl scandoside methyl ester (IG2), E-6-O-p-coumaroyl scandoside methyl ester-10-methyl ether (IG3) ⁽⁷⁾ ⁽⁸⁾

Mechanism of Action

Studies conducted in vitro and in animals have shown that *O. diffusa* exerts antitumor effects via apoptosis ⁽³⁾, dose-dependent increase of oxidative burst ⁽²⁾, caspase-dependent apoptosis ⁽⁴⁾ ⁽⁸⁾ and apoptosis in a cell-cycle independent fashion possibly through the induction of genotoxic damage ⁽⁶⁾. Its immuno-modulating effects are via stimulation of the immune system to kill or engulf tumor cells ⁽⁵⁾.

The anti-inflammatory activity of *Oldenlandia* was shown to be due to inhibition of the production of tumor necrosis factor (TNF)- α , interleukin (IL)-6 and prostaglandin E(2) (PGE(2)) in mouse peritoneal macrophages ⁽¹³⁾.

Warnings

Quality control issues have been reported. Two similar species — *Corymbosa* LAM and *Oldenlandia tenelliflora* BL — are commonly used as substitutes for Herba Oldenlandiae (the powdered form of *O. diffusa*) ⁽¹⁰⁾.

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Consumer Information

How It Works

Bottom Line: *Oldenlandia diffusa* showed anticancer effects in lab studies. Human data are lacking.

Oldenlandia diffusa is an herb found in East Asia and Southern China. It is used in traditional Chinese medicine for the treatment of liver diseases, snake bite and tumors. Laboratory studies suggest that this herb may inhibit the growth of cancer cells and kill them by causing apoptosis (programmed cell death), and by stimulating the immune system to destroy or engulf tumor cells. Studies show that certain chemicals found in the herb help lower cholesterol in mice and have anti-inflammatory effects in mice with rheumatoid arthritis.

More research is necessary to confirm whether this herb can be used safely and effectively for any condition in humans.

Purported Uses

- **Hepatitis**

There are no data to support this claim.

- **Cancer**

Several lab and animal studies have shown that *Oldenlandia diffusa* has anticancer effects. Human data are lacking.

- **Snake bite**

Although traditionally used to treat snake bite, there are no studies to back this claim.

- **Arthritis**

A study in mice showed that a component of *O. diffusa* had anti-inflammatory effects and it did not induce gastric problems compared to mice treated with ibuprofen (a non steroidal anti-inflammatory drug).

- **High Cholesterol**

Three compounds isolated from *O. diffusa* were shown to lower cholesterol levels in mice.

Patient Warnings

Poor quality control has been reported with products containing of *O. diffusa*. Two similar species — *Corymbosa LAM* and *Oldenlandia tenelliflora* BL — are commonly used as substitutes for Herba Oldenlandiae (the powdered form of *O. diffusa*).

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