

Kalawalla root

Common name: Kalawalla

Botanical name: *Polypodium leucotomos* L.

Synonyms: *Phlebodium decumanum*, *P. multiseriale*, *Chrysopteris decumana* L.

Common Names: Samambaia, calaguala, huayhuashi-shupa, cotochupa, mirane, temakaje

Net weight : 40 g.

Additional information about Kallawalla:

Kallawalla (Samambaia) is a fern that grows in the rainforests of South America as well as drier tropical forests in Latin America. The Polypody family contains three-quarters of all ferns—over 6,000 species of plants, mostly native to the tropics of both hemispheres. There are 75 species of plants in the *Polypodium* genus, many of which have been used medicinally for centuries. The name is derived from poly, meaning “many,” and podus, meaning “foot,” for the many foot-like divisions of the root or rhizomes of polypody ferns. *Polypodium leucotomos* (also classified as *Polypodium aureum*) and *Polypodium decumanum* (also classified as *Phlebodium decumanum*) are indigenous to the Honduran rainforests but also can be found throughout the South American tropics and in parts of Latin America and the Caribbean. In Brazil, the common name is samambaia; in Mexico and other Spanish-speaking tropical countries, the plant is known as calaguala.

Samambaia contains flavonoids, alkaloids and lipids. It is a rich source of lipids and fatty acids and its therapeutic activity is attributed to these groups of chemicals.

There has been a great deal of scientific interest in *Polypodium* plants, mostly focusing on their ability to treat psoriasis. In the mid-1970s, rhizome extracts of samambaia were first reported to decrease the over-growth of skin cells and skin thickening, and reduce the severity and extent of skin lesions in psoriasis patients. In the early 1980s, a company in Spain produced an herbal drug from a water extract of samambaia (*P. leucotomos*) rhizome and named it Anapsos. Since that time it has been a prescription drug registered by the Health Ministry of Spain for the treatment of psoriasis. Clinical research also has been published on Anapsos since then (including various double-blind placebo human trials) indicating it to be an effective treatment for psoriasis - as well as dermatitis and vitiligo (with a 3-6 month course of treatment required).

The mechanism of action in treating psoriasis is thought to be related to the modulation of certain cellular processes found in inflammation and psoriatic skin. Scientists have shown that psoriatic skin has abnormally high quantities of chemicals produced in the body called leukotriene and PAF (platelet-activating factor) Both are implicated in the cause and progression of psoriasis. In clinical research samambaia (and/or some of its novel chemicals) have shown to be effective in blocking excess leukotriene production as well as excess PAF. Psoriasis is also considered an autoimmune disease (as many of the immune cells are overstimulated, while others are suppressed). Extracts of samambaia have clearly demonstrated in clinical studies to possess some of the specific immune modulating effects needed to treat the imbalances in the immune system that are peculiar to psoriasis. Additionally, extracts of samambaia have been documented to have a direct anti-inflammatory activity in mice, rats, and humans with psoriasis.

Some of the more recent research on samambaia has focused on other chronic and degenerative diseases. A U.S. patent was filed (in 2001) on a samambaia rhizome extract that indicated its

suitability in the treatment of AIDS- and cancer- related wasting syndrome, reporting marked benefits in several non-randomized human studies with cancer and AIDS patients. In 1997, a U.S. patent was filed on a samambaia leaf and rhizome extract capable of treating brain disorders such as Alzheimer's disease and dementia. The patent and several in vivo clinical studies indicate samambaia protects against brain cell degeneration, promotes repair of damaged brain cells, and has a protective effect to brain cells. This was discovered when psoriasis patients in Europe taking Anapsos (who also had Alzheimer's) reported an improvement in their Alzheimer's symptoms. This led the drug manufacturer to fund clinical trials on its use for brain disorders. In a double-blind placebo human trial (in 2000), researchers reported that a dosage of 360 mg per day of anapsos given to patients with senile dementia improved cognitive performance, increased the blood supply to the brain, and also increased the electrical impulses in the brain. The results were better with Alzheimer's patients and those with mild dementia than those with severe dementia and extensive brain cell degeneration. Anapsos now is used in Spain and Europe for the treatment of Alzheimer's and dementia.

The same protective effects to brain cells seem to extend to skin cells as well. A 1997 U.S. patent was filed on an extract of samambaia, which indicated it is effective in preventing sunburn and skin damage (taken internally, as well as applied topically prior to exposure). Its protective effect against ultraviolet radiation was reported to be due, in part, to an antioxidant effect. One of the in vivo human studies confirming this activity was performed at Massachusetts General Hospital's dermatology department. Another study (with hairless mice), conducted at Harvard medical school in 1999, reported that a samambaia extract applied topically helped to avoid skin damage and sun-associated skin aging, as well as reduced the number of UV-induced skin tumors in mice. The Harvard researchers published a human study in 2004 reporting that samambaia evidenced "substantial benefits of skin protection" to prevent sunburn and prevent skin aging when it was taken internally (at 7.5 mg/kg). Based on some in vitro studies, other university student researchers suggested that samambaia may help prevent sun damage and skin aging at low dosages while higher dosages may actually reverse the loss of normal elastic fibers associated with intrinsic aging of the skin. A pharmaceutical company in Spain has also published a study indicating that samambaia is suitable to use as a preventative treatment for sunburn and skin damage.

Samambaia, like most ferns, has an intricate, creeping root system; it is this rhizome, as well as the fronds or leaves, that is used most medicinally.

Many types of ferns are used in traditional medicine around the world. Most, including samambaia, are considered a tonic, blood cleanser, expectorant, and are used for numerous upper respiratory conditions.