

History/Traditional Use

Ashwagandha, also known as Indian ginseng, is highly regarded as an herbal tonifier in the ayurvedic field and has been compared to Chinese ginseng (Panax ginseng) for it's rejuvenating and staminaenhancing properties. The plant parts, roots, stems, and leaves are most commonly used, more over than the bitter berries due to the effectiveness in the fruits being lower. The roots gives off a unique smell of a horse giving its popular name Ashwagandha, "smells like a horse". Also popular belief suggests that intaking ashwagandha will give strengths and vitality of a horse. Because of it's wide uses, it has obtained the nickname "Queen of Ayurveda."



Plant of the Month By Phung Hoang, Alkemist Labs



Ashwagandha Withania somnifera

Chemistry

Withanone and Withaferin both have structures similar to withanolides and are extracted from the leaves and the roots. Withanolides are naturally occurring chemical compounds and are secondary metabolites produced to protect the plants from herbivores. To humans, they have medicinal properties including anti-inflammation, anti-cancer, adaptogenic and anti-oxidant effects. Ashwagandha alcoholic leaf extract, was shown to kill cancer cells selectively.



Microscopic Analysis

A unique characteristic of *Withania somnifera* are the starch granules in the root. If you look closely, the granules are simple or compound in aggregates, from two to four. The starch granules are subspherical and with an approximate size between $8-40\mu m$ in diameter. Hilum markings on almost all granules are pronounced and irregular, including pointed, cleft or stellated.

Cultivation/Preparation

Ashwagandha is a perennial shrub native to Africa, Canary Islands, Southern Europe eastwards to Southern Asia. It was also introduced to Australia. They are cultivated throughout India and their roots are collected in winter to be cut and washed. It is then prepared as a dietary supplement for numerous benefits including but not limited to stress relief and sleep health.



Withanone

Withaferin A

References

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