

ASHWAGANDHA

Ashwagandha consists of dried mature roots of *Withania somnifera* Dunal. (Fam. Solanaceae), a perennial shrub, found in waste land, cultivated field and open grounds throughout India, widely cultivated in certain areas of Madhya Pradesh and Rajasthan , roots collected in winter, washed and cut into short pieces.

It is an ironic herb as it is a tonic and sedative all in one. It strengthens an exhausted nervous system that can manifest with 'hyper' signs such as emotional instability, agitation or feeling stressed-out. It has the dual action of energizing while calming.

Its name Ashwagandha meaning 'the smell of a horse', comes from the fresh root smelling like a horse's urine, and also perhaps because it is renowned for imparting the sexual stamina of a horse.

SYNONYMS

Sanskrit	:	Hayagandha, Vajigandha
Assamese	:	Ashwagandha
Bengali	:	Ashwagandha
English	:	--
Gujrati	:	Asgandha
Hindi	:	Asgandh
Kannada	:	Angarberu, Hiremaddina-gida
Kashmiri	:	Asagandh
Malayalam	:	Amukkuram
Marathi	:	Asagandha, Askagandha
Oriya	:	Aswagandha
Punjabi	:	Asgandh
Tamil	:	Amukkaramkizangu
Telugu	:	Pennerugadda
Urdu	:	Asgand

DESCRIPTION

a) Macroscopic

Roots straight, unbranched, thickness varying with age. roots bear fibre-like secondary roots, outer surface buff to grey-yellow with longitudinal wrinkles, crown consists of 2-6 remains of stem base, stem bases variously thickened, nodes prominent only on the side from where petiole arises, cylindrical, green with longitudinal wrinkles, fracture, short and uneven, odour, characteristic, taste, bitter and acrid.

b) Microscopic

Transverse section of root shows cork exfoliated or crushed, when present isodiametric and non-lignified, cork cambium of 2-4 diffused rows of cells, secondary

cortex about twenty layers of compact parenchymatous cells, phloem consists of sieve tubes, companion cells, phloem parenchyma, cambium 4-5 rows of tangentially elongated cells, secondary xylem hard forming a closed vascular ring separated by multiseriate medullary rays, a few xylem parenchyma

IDENTITY, PURITY AND STRENGTH

Foreign matter	Not more than	2	per cent, Appendix	2.2.2.
Total Ash	Not more than	7	per cent, Appendix	2.2.3.
Acid-insoluble ash	Not more than	1	per cent, Appendix	2.2.4.
Alcohol-soluble extractive	Not less than	15	per cent, Appendix	2.2.6.
Water-soluble extractive	Not less than		per cent, Appendix	2.2.7.

ASSAY

ASSAY -Aswagandha consists of not less than 0.2 per cent of total alkaloids, when assayed as follows:

Take about 30g accurately weighed of the powdered drug, cover with *Alcohol* (90 per cent) and allow to stand overnight. Extract for 6 hours so wet apparatus and concentrate to a syrup residue. Treat with 25, 20, 15 and 10 ml portions of 5 per cent **Sulphuric Acid** until complete extraction of alkaloid is affected.

To the combined acid extracts add an excess of Dragandorf's reagent. Filter under suction and dissolve the residue in *Acetone*, Shake the acetone solution with freshly prepared suspension of 2ml *Silver Carbonate* in 10 ml of *Water*. Filter the solution and wash the precipitate with *Acetone*, *Alcohol* and *water* in that order. Pass sufficient *Hydrogen Sulphide* through the filtrate. Boil the solution for 10 minutes, Inter and evaporate under vacuum in a tared flask. Add to the residue 5 ml of *Ethyl Alcohol* evaporate to dryness, repeat the process once again and weight the residue to constant weight in a vacuum dessicator.

CONSTITUENTS -

Alkaloids – ashwagandhine, withanine, isopelletierine, anaferine

Steroidal lactones – withanolides, withaferins

Phytosterols - sitoindosides, B-sitosterol

Saponins

Iron

BIO -MEDICAL ACTION

Adaptogen, tonic, anti-inflammatory, immunomodulator, anti-tumour, nervine, mild sedative, analgesic, reproductive tonic, aphrodisiac, antianaemic

Source material(s): Root (API 2001)

Route(s) of administration: Oral (API 2001)

PROPERTIES AND ACTION

Rasa	:	Tikta, Kasaya
Guna	:	Laghu
Virya	:	Usana
Vipaka	:	Madhura
Karma	:	Rasayana, Vatakaphaja, Balya, Vajikara
Dosha effect	:	VK
Dhatu (tissue):	:	Blood, muscle, fat, bone, nerve, reproductive
Srota (channel):	:	Reproductive, nervous, respiratory

THERAPEUTIC USES -

1. Traditionally used in Ayurveda as *Rasayana* (rejuvenative tonic) (Sukh Dev 2006; API 2001; Upton 2000).
2. Traditionally used in Ayurveda to relieve general debility, especially during convalescence or old age (API 2001; Kapoor 2001).
3. Traditionally used in Ayurveda as a sleep aid (Khare 2004; Upton 2000).
4. Traditionally used in Ayurveda to balance aggravated *Vata* (nervine tonic, sedative) (Kapoor 2001; Khory and Katrak 1999; Nadkarni 1954).
5. Traditionally used in Ayurveda for memory enhancement (Sukh Dev 2006; Upton 2000; Nadkarni 1954).

INDICATIONS -

Tissues Debility, low body weight, emaciation, deficient haemoglobin, anaemia, post-convalescent weakness, athletic exertion and with caution in pregnancy. It is useful for any imbalance in the muscles as it both reduces inflammation and strengthens muscle tone. It is a specific *rasayana* for *mamsa dhatu* and it is an anabolic muscle builder. As it benefits all muscle tissue it is used as a heart tonic, uterine tonic, lung tonic as well as for increasing muscle weight and tone in convalescents, slow developing children and the elderly.

Immunity Auto-immune conditions, neutropenia, rheumatoid and osteo arthritis, cancer, and chronic connective tissue disorders. As a painkiller and anti-inflammatory it is commonly used in swollen or painful arthritic conditions. It can strengthen a weakened immune system and protect it from becoming depleted due to immunosuppressive drugs or lifestyle. Improves white blood cell counts. It appears to have both immunosuppressive and immunotonic abilities and is therefore a 'true' adaptogen.

Lungs Asthma, cough and allergic conditions from low immunity with high *kapha* and *vata*. Useful in hayfever, allergic rhinitis from aggravated *vata* and *kapha*.

Nerves Neurosis, insomnia, anxiety, 'hyper' symptoms and ADHD. Very useful in all conditions caused by 'stress' as it has a specific affinity for the *majja dhatu* and helps to regulate the movement of *vyana vayu* in the heart. Its tropism for the nervous system benefits Multiple sclerosis. It both relaxes frayed nerves and tonifies the central nervous system to enhance tolerance to stress. It is a nourishing nevine as opposed to a heavy

Reproductive Its rejuvenating effect on *shukra dhatu* helps to alleviate asthenospermia (increasing sperm motility), oligospermia (increasing sperm count), poor sexual performance and helps to reduce impotence. Its unique action or *prabhava* is to promote sexual potency and sperm production. External application of Ashwagandha oil is used for impotence.

Gynaecology Excellent tonic to the uterine muscles. Used in menstrual imbalance caused by a deficient condition with an aggravation of *vata* and uterine spasms; dysmenorrhoea, amenorrhoea, weakness.

Thyroid Very useful in hypothyroid to regulate thyroid activity.

AYURVEDIC ACTION

Vrishya Increases sexual potency

Balya Increases strength

Medhya Promotes the intellect

Ojasvardhanam Increases *ojas*

Nidrajnana Promotes sleep

Shukrala Increases sperm production

Shothahara Prevents consumption and wasting diseases

Rasayana Rejuvenative

Vatakaphahara Reduces *kapha* and *vata*

Vedanasthapana Reduces pain

Shwasa Benefits breathing

Duration of use: No statement is required.

DOSE - 3-6 g of the drug in powder form

Caution(s) and warning(s):

1. Consumption with alcohol, other drugs or natural health products with sedative properties is not recommended (Berardi et al. 2002; Gennaro et al. 2000; McGuffin et al. 1997).
2. Consult a healthcare practitioner prior to use if you are pregnant (McGuffin et al. 1997) or breastfeeding (Upton 2000).

Contraindication(s): No reports known.

Known adverse reaction(s): No reports known.

SAFETY

No drug herb interactions are known. There are some theoretical interactions between Ashwagandha and immuno suppressant, thyroid, and some sedative medications but these are not evidence based. As Ashwagandha appears to have some hypoglycaemic activity in humans it is advisable to monitor blood glucose in susceptible individuals.

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