

Ashwagandha - Withania Somnifera

“Indian Ginseng”



The right botanical for our times

Peter Brodhead CN - April 13, 2023

Ashwaganda - Withania Somniferea

Small Evergreen Shrub

Solanaceae Family - potato, tomato, eggplant, pepper family

Cultivated in India on a commercial scale

It also grows in Africa



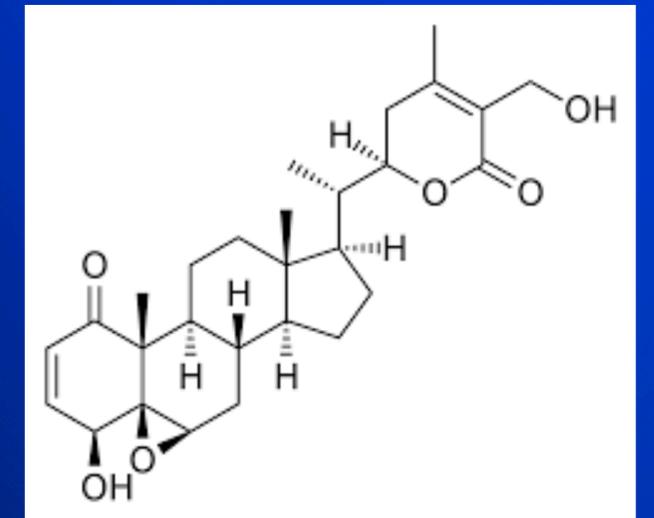
Active constituents :

12 Alkaloids and steroidal lactones together are called withanolides (particularly withaferin A)

Preparations are often standardized

Although the root in powdered form is mixed in beverages and foods.

Withaferin A



It contains 35 Withanolides

Withanolides have been found to have anti-oxidant properties

The name of **ashwagandha** is a combination of the Sanskrit word - **ashva** meaning horse and **gandha** meaning smell - although it has a noticeable smell - it is associated with stamina, and re-invigoration, and increasing strength and energy



In the ancient Hindu tradition it is classified as a **Rasayana** - a tonic reputed to promote physical and mental health, it increases resistance to disease and revitalizes the body in debilitated conditions and increases longevity.

It is considered to be an Adaptagen

Adaptagenic herbs are considered to be general rejuvenating tonics that can be consumed for long periods of time with little or no contraindications. They protect the body from stress, support immunity, and energy.

Ashwagandha is unique in that it is more relaxing than stimulating. Its name Soniforia - refers to its ability to enhance the quality of sleep.



Optimal Aging

Its traditional use in Ayurvedic medicine includes its use as an optimal aging herb that increases longevity, promotes resistance to disease, and improves both mental and physical health. It is considered a strong tonic.

Ashwagandha is a GABA agonist

It binds to GABA receptors

GABA is the primary inhibitory

Neurotransmitter in the brain - it supports calm

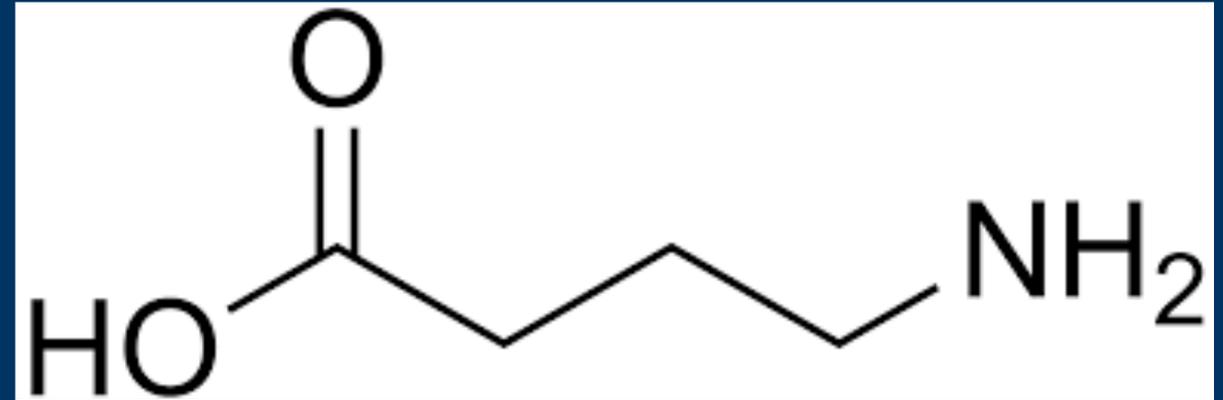
It is safe to use long-term for reducing overall anxiety

It has anti-inflammatory actions in the brain

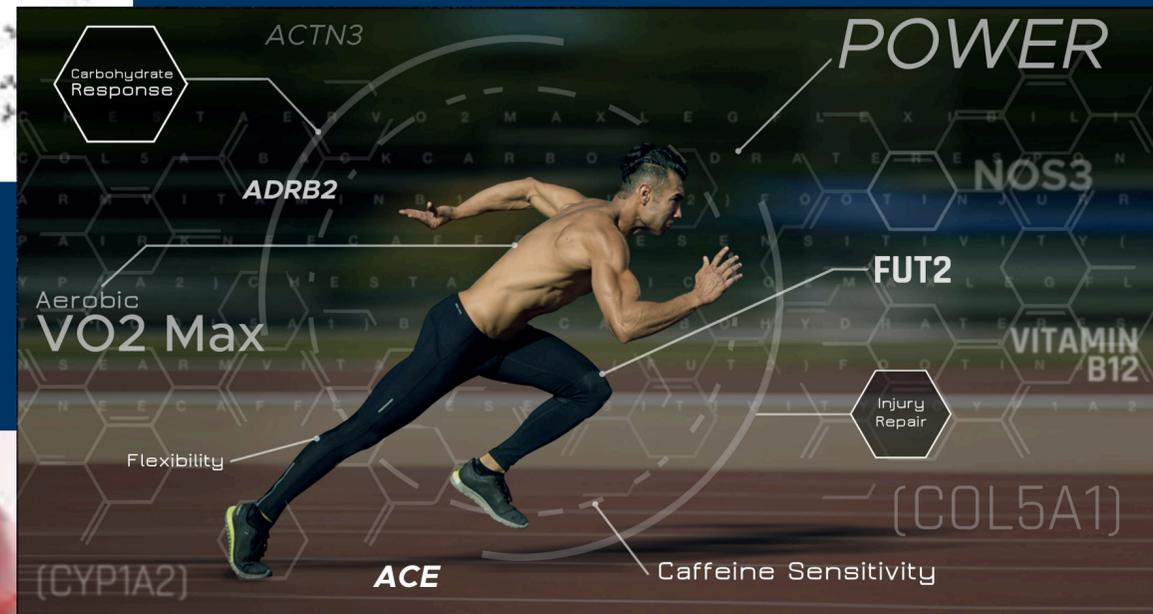
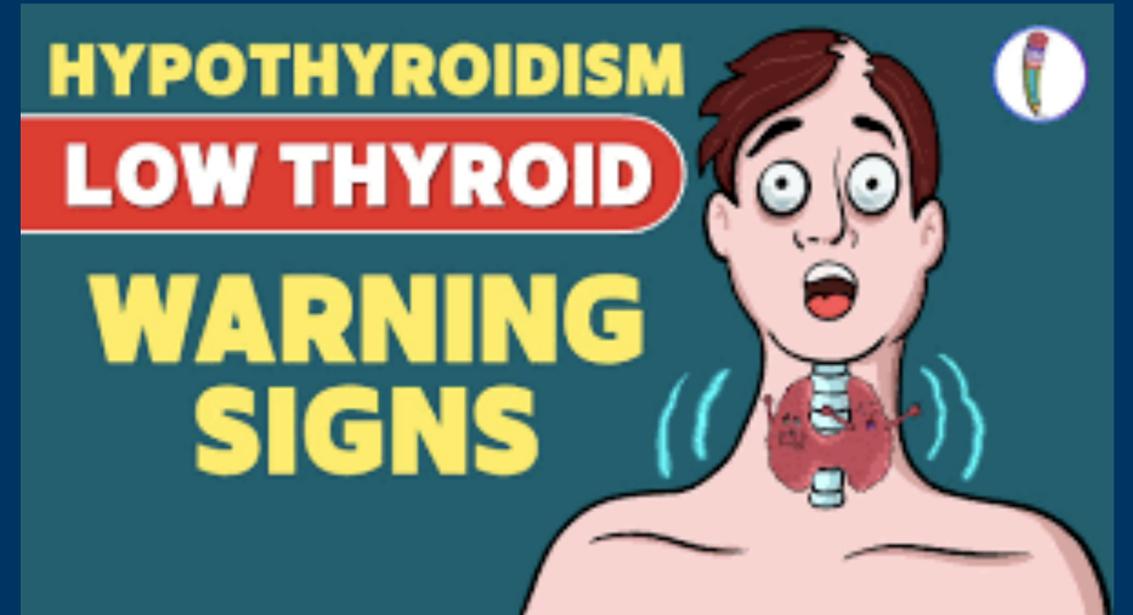
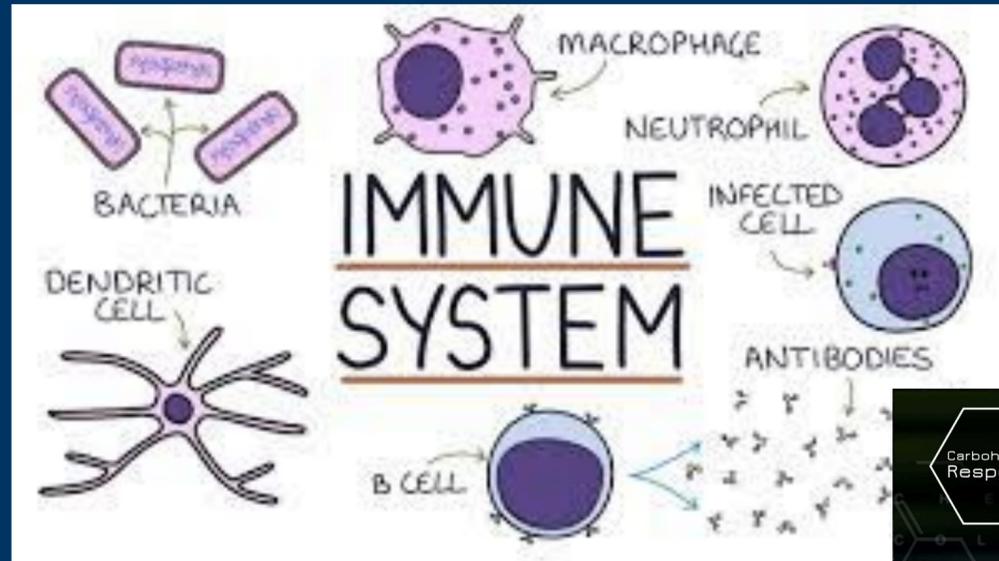
It lowers neuro-inflammation

Low grade inflammation in the brain lowers serotonin and dopamine levels

It can support blood flow to the brain



Clinical Studies with Ashwagandha





Ashwagandha root extract may boost testosterone levels, sexual function in men

Supplementation with the branded ashwagandha root extract KSM-66 may significantly increase testosterone levels and boost sexual function in men with lower sexual desire

Data published in Health Science Reports indicated that eight weeks of supplementation with ashwagandha root extract led to a 17% increase in serum testosterone compared to a 2% increase in the placebo group.

Randomized, double-blind, placebo-controlled study included 50 men with lower sexual desire. The men had an average age of 35. Two groups assigned to receive 300mg of ashwagandha root extract or placebo capsules twice daily for eight weeks.

While testosterone levels increased significantly in the ashwagandha group. No changes in prolactin levels were recorded in either group. Prolactin is a hormone that has been linked to erectile problems in men.

The findings of this study support ashwagandha root extracts's aphrodisiac effect on sexual well being in adult men. The concluded that this could be a result of an increase in serum testosterone.

Ashwagandha's Role in Male Fertility

90 day pilot study

Conducted at 5 infertility centers in Mumbai India

46 male patients between 22 and 40 years of age

Sperm count < 20 million/mL semen

All men had a history of regular intercourse with a healthy partner with no female infertility.



All men took KSM-66 Ashwagandha receiving 225 mg per dose 3x a day or placebo

Semen parameters and serum hormone levels were estimated at the end of treatment

At the end of the 90-day treatment, men receiving ashwagandha had an:

167% increase in sperm count

53% increase in semen volume

57% increase in sperm mobility





Ashwagandha root extract shows efficacy for menopausal symptoms

Supplementation with the branded ashwagandha root extract KSM-66 may improve the psychological, and urogenital symptoms in perimenopausal women, as well as boosting quality of life.

Data published in the Journal of Obstetrics and Gynecology Research - indicated that ashwagandha root extract led to significant improvements in hot flashes and night-time sweating for women after eight weeks of supplementation. Improvements in psychological measures such as depressed mood, irritability, and anxiety were also reported compared to placebo.

100 women aged between 45 and 55 were randomly assigned to receive 600mg per day of the ashwagandha extract or placebo for eight weeks.

91 women completed the study. The women in the ashwagandha group experienced statistically significant reductions in scores on the menopause rating scale.

Specifically, the researchers noted that the number of hot flashes per week was reduced greatly, and the serum estradiol level was restored to normal.

Source: Journal of Obstetrics and Gynecology Research.

“Effect of an ashwagandha (Withania Somnifera) root extract on climacteric symptoms in women during peri menopause: A randomized, double - blind, placebo-controlled study”

Authors: S. Goal, et al.

Nutri-Ingredients 11/1/21

Ashwagandha root extract may improve sexual health in healthy women

Supplementation with ashwagandha root extract may improve measures of sexual function and increase the number of 'satisfying encounters', says a new study



80 women aged between 18 and 50 diagnosed with "Hypoactive sexual desire disorder"

The women received 600mg a day or placebo for 8 weeks

8 weeks supplementation with KSM-66 Ashwaganda led to statistically significant improvements in measures of sexual function in 80 healthy women, including desire, arousal, lubrication, orgasm, and sexual satisfaction, compared to placebo



Efficacy and Safety of Ashwagandha Root Extract for Improvement of Sexual Health in Healthy Women: A Prospective, Randomized, Placebo-Controlled Study" Authors: A, Ajgaonkar et al
Cureus 14(10); e30787 doi:

Ashwagandha and Low Thyroid

A single center, prospective, double-blind, randomized, placebo-controlled, parallel group trial conducted at Sudbhawana Hospital, Varanasi India.

46 subjects has serum TSH levels between 4.5 and 10 and normal serum T3 and T4 levels

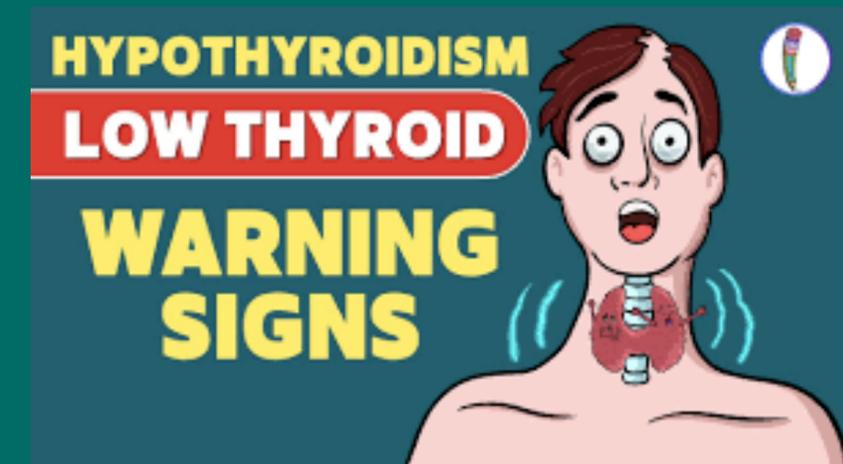
Over 8 weeks subjects received 300mg of ashwagandha (as KSM-66) twice daily or placebo for 8 weeks.

After 8 weeks

Significantly decreased serum TSH levels

T3 levels increased by 18.6% at four weeks and 41.5% by eight weeks

T4 levels increased by 9.3% at four weeks and 19.6% by eight weeks



J Endocrinol Invest. 2017 Aug 29 DOI:10:1007
NEJM 2017; 376:2534-2544

Source: Sharma AK, Basu I, Sing S.

“ Efficacy and Safety of Ashwagandha Root Extract in Subclinical Hypothyroid Patients:
A Double- Blind, Randomized Placebo Controlled Trial.”

J Alternative Complimentary Med 2017. DOI 10.1089/acm2017.0183

Ashwagandha root extract may boost Cardio-Respiratory Endurance and Recovery

Supplementation with branded ashwagandha root extract KSM-66 may boost cardiorespiratory endurance and recovery in healthy athletic adults.

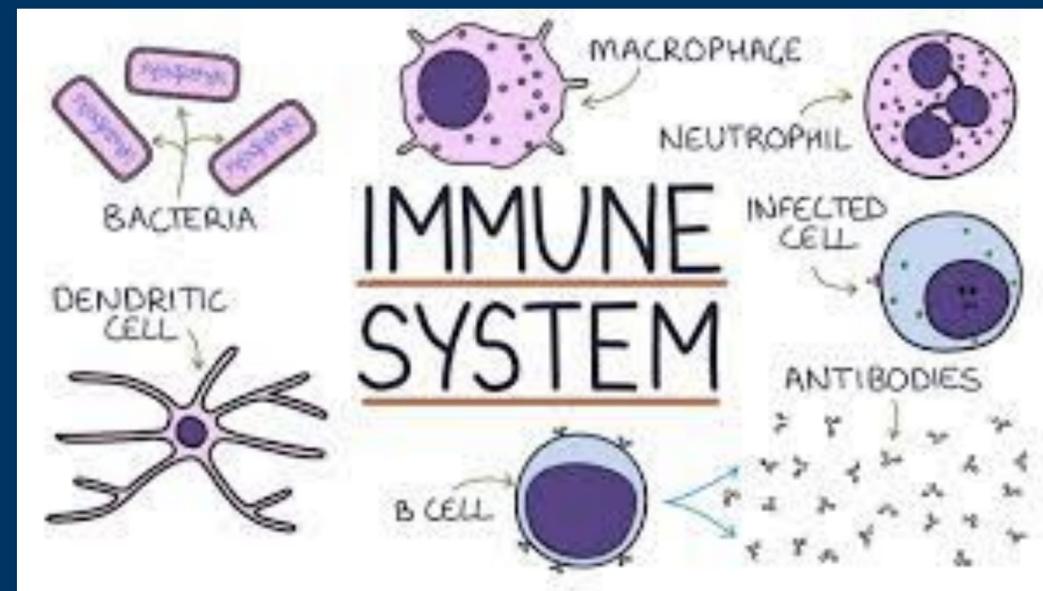
50 healthy athletic adults were randomly assigned to receive KSM-66 Ashwagandha root extract 300mg 2x a day or placebo for 8 weeks. Results showed significant improved VO2 max compared to the placebo group.

VO2 max is the maximum amount of oxygen your body is able to use during exercise

Source: Journal of Ethnopharmacology 2021, Volume 272, 113929, DOI:

Authors: S. Tiwari et al.





Ashwagandha extract shows ‘potent immune-stimulatory properties’: Study Journal of Clinical Medicine 2021, 10(16), 3644 Authors: A. Tharakan et al.

24 healthy men and women aged between 24 and 72 were randomly assigned to receive 60mg of Ashwagandha extract or placebo for 39 days.

The results of the initial 30-day study showed that the ashwagandha extract upregulated both innate immune system (as assessed by measures of cytokines, T-cells, B-cells, NK cell) and the adaptive immune system system, as evidenced by the impact on various antibodies (immunoglobulins), including IgA, IgGs, IgM.

Ashwagandha extract cuts amount of non-restorative sleep

Daily supplementation of a standardized ashwagandha extract may reduce the amount of nonrestorative sleep experienced by healthy adults



In a gold standard randomized double blind placebo-controlled trial, 150 healthy subjects scoring high on non-restorative sleep measures were given 120mg of standardized ashwagandha extract (42mg of withanolide glycosides) Or placebo.

Of the 144 subjects who completed the study reported a 72% improvement In sleep quality, compared to 29% in the placebo group



The ashwagandha group showed statistically significant improvement In sleep efficiency, total sleep time, sleep latency, and wake after sleep onset compared to placebo

A. Deshpande et al., “A randomized, double blind, placebo-controlled study to evaluate the effects of ashwagandha (*Withania somnifera*) extract on sleep quality in healthy adults”

B. Sleep Medicine, August 2020, Volume 72, Pages 28-36, doi: 10.1016/j.sleep.2020.03.012

C.

Ashwagandha is great for the “**tired but wired**” person
Believe it or not it takes energy to sleep
Ashwaganda helps restore energy and mitochondria in the body
and calms the mind



Circadian Rhythm Roger Seheult MD

Near Infra Red Light



Daytime melatonin is produced deep in our tissues from exposure to Orange morning light - best before 9am for 20 min. This establishes our circadian rhythm for the day
It also increases our own anti-oxidant production



Bright blue light of the midday sun
Helps with testosterone production
Noon light sets up melatonin cycle for the night

Orange light at sunset also helps our Anti-oxidant production and set the Evening melatonin production for sleep and restoration

Start your day with Coffee on the deck outside in the morning light to set The circadian rhythm for the day - 20min



Keep light as low as possible at night

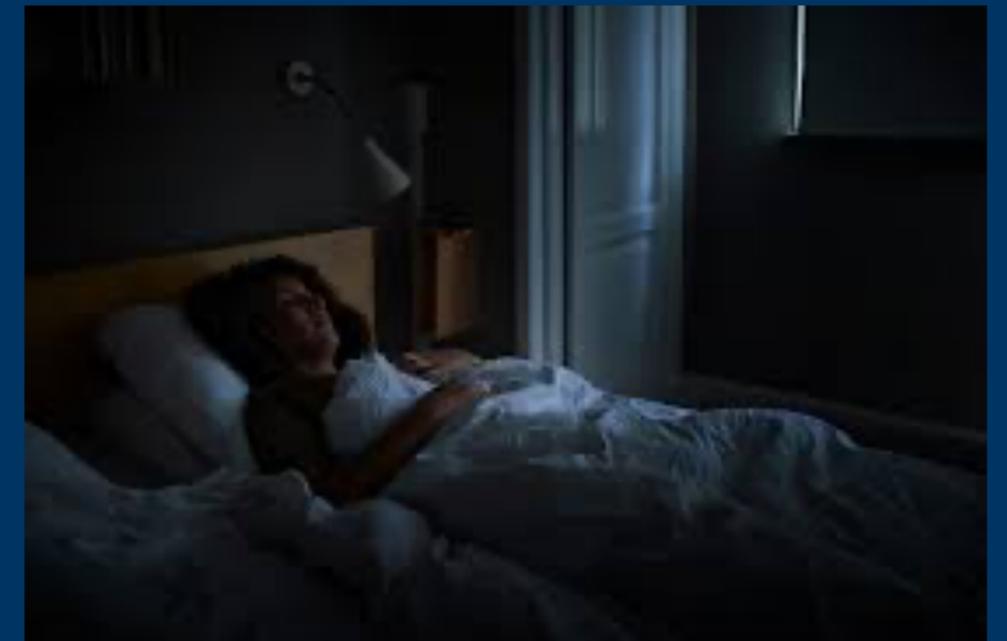
Blue Light Blocking Glasses for Night Time



Sleep Hygeine



1. Keep the bedroom temperature around 68 degree's if possible
2. Keep the bedroom completely dark
3. Bedroom clocks should be red light not white or blue
4. Don't consume caffeine after 1pm especially coffee caffeine has a 1/2 life of 6 to 8 hours.
5. Use blue like blockers at night - set your computer and cell phone to night mode
6. Make your heaviest meal at lunch - do not eat 3 hours before sleep
7. A white noise machine can help - you can download an app for your phone
8. Read calming books or listen to calming music before bed.



Anxiety studies

2 groups

Group 1 (n=41) Ashwagandha 300mg - 2x a day + diet counseling + breathing exercises and a standard multi-vitamin

Group 2 (n=40) Psychotherapy & deep breathing

Results

Group 1, BAI scores decreased by **56.5%** - significant differences in mental health, concentration, fatigue, social functioning, vitality, and overall quality of life improved

Group 2, BAI decreased by 30.5%

Cooley, K et. Al. *PlosOne*. 2009 & *Cochrane Collaboration*.
Showed a comprehensive multi-factorial approach works well

Mary Rondeau ND lecture - The one and only Ashwagandha
Medicines from the Earth conference Black Mountain NC 2022



Bi-Polar disease

A study with 60 patients - taking 500mg a day for 8 weeks

They had a lot of improvement with memory, reaction time and social cognition

Very safe to use no increase in mania and hypomania.

Dr. Mary Rondeau ND - Clinical practice she found it very stabilizing in this population. She also found it very helpful in regulating the sleep cycle.

Supports the “over-whelmed” pattern

J Clin Psychiatry, 2013 Nov;74 (11)

Mary Rondeau ND lecture - The one and only Ashwagandha
Medicines from the Earth conference Black Mountain NC 2022



Schizophrenia: A Randomized, Double-Blind, Placebo-Controlled Study

*66 Patients

*12 weeks, 1000mg a day

*Significant reduction in PANSS (positive and negative symptoms scale)
negative and total symptom improvement.

*CRP reduced.

Mary Rondeau ND lecture - The one and only Ashwagandha
Medicines from the Earth conference Black Mountain NC 2022



Ashwagandha and Cancer

In animal studies a significant increase in white blood cells and platelet counts as well as a protective effect against myelo-suppression. When treated with Ashwagandha Cyclophosphamide (Cytosin) induced immune-suppression was counteracted by treatment with Ashwagandha

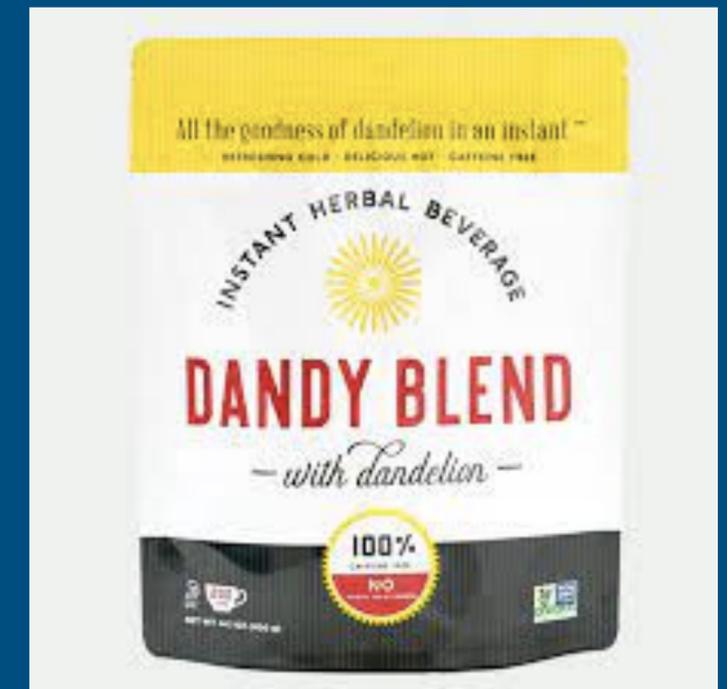
This suggests that it may be used as an adjuvant during cancer chemotherapy For the prevention of bone marrow depression associated with anticancer drugs.

In a study with breast cancer chemotherapy regimens of Taxotere, adriamycin, and cyclophosphamide or 5-fluorouracil. Patients found it useful against cancer - related fatigue.



Taking Ashwagandha

- *Daily tonic 1 - 2 tsp powdered root added to chicory root tea/dandelion root tea (Dandy Blend) or coffee in the morning
- *Add to smoothies
- *Milkshakes
- *Warmed milk with cinnamon, cardamon, ginger
- *Use with a little nutmeg to help with staying asleep at night



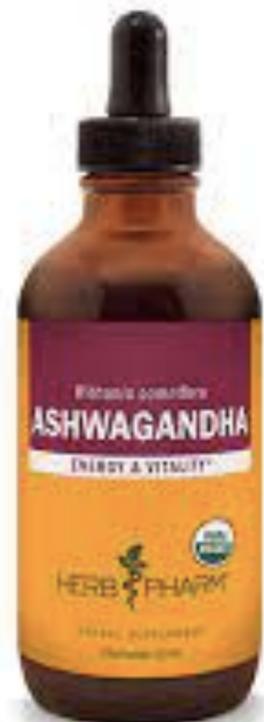
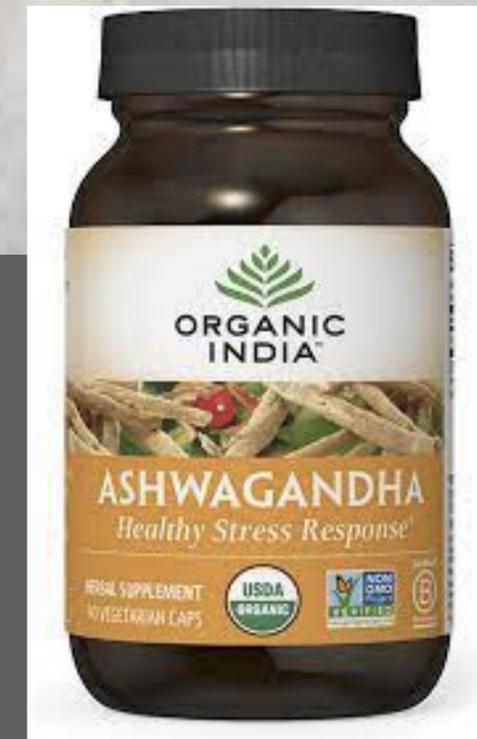
Part used: Root

Constituents: Alkaloids, steroidal lactones (withaferins, withanolides)

Dosing: Liquid Tea decoction - boiling the root 1 tsp to 1 tablespoon - 3x a day (t.i.d)

Tincture (1:5) 2 - 8 ml 3x a day (t.i.d.)

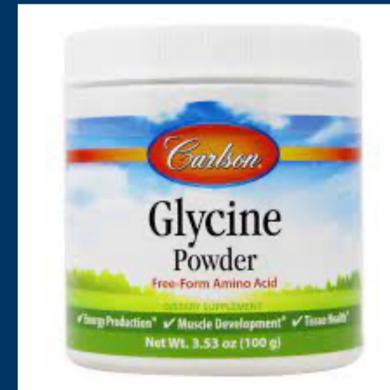
Capsules 240 - 500mg 2 to 4x a day



Nutritional - Botanical Support for Sleep

Sustained Release Melatonin - can support keeping in the deeper states of sleep so you can go between deep sleep - REM sleep and back to deep sleep easily

Glycine - an amino acid that tastes like sugar
It turns off a busy mind - it combines well with herbal tea
Because it tastes sweet - 1/2 to 1 teaspoon
Great also for a busy mind wake up - you can take it in the middle of the night to get back to sleep



Magnesium - great support for relaxing the body and muscles
The malate form works best for muscles - 200mg 1 hour before bed

CBD - full spectrum can be supportive - especially when pain is an issue with sleep quality
Plus CBD brand is one of my favorites



Valerian - small doses work best - some people have an opposite effect
Kava - relaxes the body - helps you fall asleep faster
Passion flower - turns the mind off - great with Glycine
Chamomile - helps you fall asleep faster - great when the body is in pain



My personal favorite



Tulsi - Holy Basil

Another stress adaptagenic botanical

Easy to grow in the garden

Supportive for reducing anxiety and elevated cortisol levels



Glycine - The amino acid for our times

Bonds to the locus cerulean in the mid - brain
And decreases the release of norepinephrine

Calms “Overwhelmed feeling”

Calms down overactive thinking

Tastes like sugar - easy to add to tea

My favorite combo
Tulsi (Holy Basil) Rose Tea
with a teaspoon of Glycine



GLYCINE - $CH_2(NH_2)CO_2H$ is the shortest and simplest of all amino acids - it occurs in all protein-containing foods - it tastes like sugar - which makes it very easy to take - either directly in the mouth or as a sweetener for tea or beverages or food, being an amino acid it has no negative effects on blood sugar levels.

There are glycine receptor sites in the brain and spinal cord, which respond to glycine by decreasing the activity of the central nervous system. Glycine bonds to the locus ceruleus in the mid brain and decreases the release of norepinephrine. The effect is to calm the mind and spirit. Excess activity of the locus ceruleus can lead to feelings of anxiety and panic. It can be used both daytime or nighttime. At night it can help calm down an over busy brain when you can't sleep because of too much mental stress. It also supports detoxification pathways in the liver.

Because it tastes like sugar it makes an excellent sweetener for calming - sleep enhancing herbs such as passion flower and chamomile tea.

Dosage: 1 level teaspoon - 2x a day or 1/2 a teaspoon 4x a day
Too much taken over long periods of time can deplete other amino acids so don't use more than 5 grams a day for extended periods of time

For a stronger support for anxiety try adding 1/4 of a teaspoon of GABA powder to 1 tsp of Glycine - GABA is more directly supportive of reducing anxiety. - limit this dose to 2x a day

taken from: Applications of Botanical Remedies in Naturopathic Medicine - William A. Mitchell, ND - year 2000 update p.110 and 265

