

Sponsored by



Restorative Formulations Superior Quality and Potency



1

Restorative Formulations Organics

- 95% of RF herbs are certified organic or wildcrafted.
 - Extraction process uses only water, cert. org. alcohol and CO2. Very few other manufacturers offer certified organic herbs.
- Other brands of herbal products contain conventionally grown herbs from around the world, especially Asia, mainly because they are less expensive.
 - Most conventionally grown herbs use pesticides and herbicides, and they use toxic solvents in the extraction process.

2



Concentrated Extracts

- RF works directly with the farmers, and they know how to harvest plants at the peak of the growing cycle, and use innovative growing techniques in order to get the optimal concentration of active compounds from the plants.
 - For example, we worked with Peaceful Harvest Mushrooms in VT to grow lion's mane mushrooms for Neuro-Protect Px, with the most concentrated levels of diterpene derivatives versus that leading brands, and 10 times more than the average brands.

3



Concentrated Extracts

- RF formulas offer clinically effective doses as recommended on the bottle.
- Formulas blend whole herbs with concentrated (isolated) extracts for better synergy and activity of the plant compounds.

4



Quality Control and Testing

- RF uses HPLC or the best testing available to accurately identify herbal compounds, using a third party lab. Every batch of raw materials and finished products are tested, and materials which don't pass testing are rejected by RF.
- Some companies use less expensive and less accurate testing methods such as UV spectrometry, so the extract may not be as potent as the testing claims.
- Some companies only rely on the certificate of analysis, which is notoriously inaccurate

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Quality Control and Testing

- RF generally avoids the use of excipients, but when absolutely necessary , uses inert ingredients such as rice powder, omega 3 flow agents, and other natural ingredients.
- RF maintains Grade A status after FDA inspection and has never received a warning letter.
- RF pledges 1% of all sales to Environmental Nonprofit organizations, including COTAP, Earthjustice, and Doctors Without Borders.
- RF is family owned and operated; environmentally conscious; supports small farms; uses only safe ingredients

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Thyroid Px for Hypothyroidism



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Diagnosing Hypothyroidism

- High TSH reflects low thyroid levels.
- However, TSH does not necessarily reflect thyroid activity at tissue level (as in Wilson's Temperature Syndrome, as indicated by low body temperature). This can lead to missed diagnosis of hypothyroidism.
- TSH is also necessary for iodine absorption in thyroid, breasts, ovaries, and salivary glands.

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Hashimoto's Disease

- Autoimmune disease
- Most common cause of hypothyroidism in the US
- Affects 5/ 100 Americans, 8 times more common in women
- Synthroid (T4) is the most common treatment for hypothyroidism

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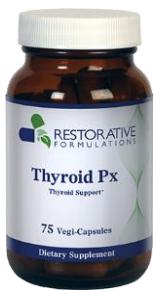
Symptoms of Hashimoto's Hypothyroidism

► weight gain	► difficulty getting pregnant
► fatigue	► joint and muscle pain
► paleness or puffiness of the face	► hair loss or thinning, brittle hair
► joint and muscle pain	► irregular or heavy menstrual periods
► constipation	► depression
► inability to get warm	► slowed heart rate

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Treating Hypothyroidism/ WTS



Botanicals supplements:
✓ Iris, Kelp, Guggul

Nutrition Supplementation:
➤ Iodine 0.7 mg
➤ Selenium 0.10 mg
➤ Vitamin D3 400 IU

Hormones:
➤ 25 mcg T3
BID
➤ Or 100 mcg
T4

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Does it Matter Which Type of Iodine is Used?

Iodide/Iodine combined or Iodide alone?

- ▶ Iodoral tablets claim to be a superior combination of iodine/ iodide.
- ▶ Lugols is a liquid solution of iodine/iodide.
- ▶ A study shows that dry iodine/iodide formulas are converted to 100% iodide when exposed to saliva.

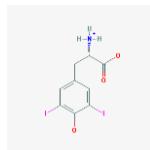
Iodine or Iodide? A Laboratory Evaluation of the Content of Powdered Iodine Supplements December 8, 2017. Journal of Restorative Medicine, Volume 6, Number 1, 8 December 2017, pp. 62-68(7) Hand, Darrow; Wilson, Denis

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Seaweed For Hypothyroidism

- Seaweeds are high in numerous minerals and halides including iodine.

Diiiodotyrosine



Aquaron R, et al. Bioavailability of seaweed iodine in human beings. *Cell Mol Biol* 2002 Jul;48(5):563-9.

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Selenium and Thyroid Antibodies



- During a supplementation trial of 50-100 mcg Se:
 - Serum selenium (Se) increased by 45%
 - Autoimmune marker (TPO-Ab) decreased by 76%
 - Antioxidant activity- plasma glutathione peroxidase (GPX3) increased by 21%

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Vitamin D3 and Hashimoto's Disease



- 1,25-Vitamin D levels are lower in individuals with Hashimoto's disease.
- Supplementation with vitamin D3 in animal models prevents the development of autoimmune thyroiditis and MS.

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Planta Med 1984; 50(1): 78-80
DOI: 10.1055/s-2007-969626

Guggul Myrrh

Research Articles

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Thyroid Stimulating Action of Z-Guggulsterone Obtained from Commiphora mukul

Yamini B. Tripathi¹, O. P. Singh²
¹Department of Kayachikitsa, ²Biochemistry Section, Deemed to be University, 221005, India

> Further Information

Abstract

PDF (2 MB)

- Commiphora mukul has a thyroid stimulating effect and is useful for high cholesterol, obesity, and sluggish metabolic functioning.
- Supports T4- T3 conversion.
- **Ketosteroid found in *Commiphora* increases the uptake of iodine by the thyroid gland**
- **Acts as an adaptogen**

Abstract

A ketosteroid has been isolated from *Commiphora mukul* and its structure (4,17(20)trans,22,23,24,25-tetrahydro-11,15-dihydroxy-16,17-dihydro-20,22,23,24-tetrahydro-5H,12H-*tritetracyclo[5.3.1.0^{1,10}]undec-11-ene-16,17-dione*) has been determined from its physico-chemical properties, specially UV, IR, NMR and mass-spectra. The isolated ketosteroid showed a strong thyroid stimulatory action when administered to albino rats. Its administration (1 mg/100 g body weight) brought about an increase in iodine-uptake by thyroid and enhanced activities of thyroid peroxidase and protease as well as oxygen consumption by isolated slices of liver and biceps muscle.



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Blue Flag - *Iris versicolor*



- Iris is used for moving stagnant fluids and secretions in the body and to stimulate thyroid function
- Supports detoxification
- Traditionally used to treat goiter (enlarged thyroid gland)

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Thyroid Px

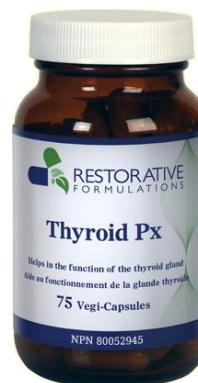
Formula

Each/Chaque vegi capsule contains:

Vitamin(e) D3	400 IU
Zinc (zinc citrate)	5 mg
Iodine/Iode(Potassium iodide) (Diiodotyrosine)	0.70 mg
Selenium (selenomethionine)	0.10 mg
Kelp/Kombu (<i>Laminaria digitata</i>)	200 mg
Blue Flag root/Claieux racine (<i>Iris versicolor</i>), O	150 mg
Guggul Myrrh/Myrrhe (<i>Commiphora molmol</i>)	50 mg
Ashwagandha root/racine (<i>Withania somnifera</i>), O	50 mg
Nettle herb/Ortie dioique (<i>Urtica dioica</i>), O	50 mg
Triphala, O	50 mg
N-Acetyl Cysteine	25 mg
Rosemary Extract 50% Rosmarinic Acid (<i>Rosmarinus officinalis</i>)	25 mg
Ginger root/Gingembre racine (<i>Zingiber officinale</i>), O	10 mg
Diiodotyrosine(3,5 Diiodotyrosine)	0.20 mg

O=Certified Organic

Non-Medicinal ingredients: Hypromellose vegi-caps
 Ingredients non médicinaux: hypromellose vegi-caps



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Recommendations

- Consider starting on ThyroCare, 1 BID to start, increase to 3 BID. Continue with thyroid medication.
- Switch to Thyroid Px after reaching 3 BID of ThyroCare. *Start with 1/day for a few days and increase dose to 1 BID up to 3 BID for up to three months.
- Body temperature and energy levels should increase within a few weeks. If not, increase the dosage slowly.
- After 6 months, it may be possible to wean off thyroid hormone medication.

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Safety and Contraindications

- Thyrocare or Thyroid Px (CAN) are safe in pregnancy and lactation at 2 per day.
- Formula is generally considered safe at the recommended doses.
- C/I: Do not take high dose iodine with thyroid nodules, tachycardia, or iodine sensitivity.

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Case example

- One patient was reported to take only Thyroid Px over 4 months to reduce thyroid antibodies. Anti-TPO baseline was 530, at 4 months was 113. Anti- TG baseline was 199, down to 28.

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ThyCalm for Hyperthyroid

Not Just Organic ... CERTIFIED ORGANIC

95% Certified Organic or Ecologically Wildcrafted Thyroid Support

[View Complete Line](#)

 Four small bottles of thyroid products are displayed in a row. From left to right: Thyroid Px (79 mg Iodine), ThyroCare (75 mg Iodine), ThyroCalm Px (120 mg Iodine), and Iodine Px (20 mg Iodine). Each bottle has a white cap and a label with the product name and iodine content.

 The Restorative Formulations logo, featuring a stylized blue and green leaf-like shape inside a circle, followed by the company name in a sans-serif font.

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Hyperthyroid Symptoms

- Sudden weight loss
- Rapid heartbeat (tachycardia) — commonly more than 100 beats a minute
- Increased appetite
- Nervousness, anxiety and irritability
- Tremor — usually a fine trembling in hands and fingers
- Sweating
- Increased sensitivity to heat
- Changes in bowel patterns, especially more frequent bowel movements
- An enlarged thyroid gland (goiter), which may appear as a swelling at the base of the neck
- Fatigue, muscle weakness
- Difficulty sleeping
- Skin thinning
- Fine, brittle hair

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Grave's Disease- Autoimmune

Signs and symptoms of Graves' ophthalmopathy include:

- Protruding eyeballs
- Red or swollen eyes
- Excessive tearing or discomfort in one or both eyes
- Light sensitivity, blurry or double vision, inflammation, or reduced eye movement
- High TSI antibodies



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Standard Medical Treatments

- Prevent hormone production with anti-thyroid drugs.
- Iodine
- Destruction of thyroid by radioactive iodine.
- Thyroidectomy
- All are irreversible.
- However, herbs can reverse hyperthyroidism without destroying the thyroid gland.

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ThyCalm for Hyperthyroid

Formula

Each/Chaque vegi cap contains:

Zinc (zinc citrate)	3 mg
Selenium (selenomethionine)	100 mcg
Organic Bugleweed (<i>Lycopus virginicus</i>) Polyphenol 5%	237 mg
Organic Lemon Balm (<i>Melissa officinalis</i>) Polyphenol 4%	189 mg
Rosemary extract 45:1(<i>Rosmarinus officinalis</i>)	155 mg
Organic Blue Flag (<i>Iris versicolor</i>)	9.5 mg

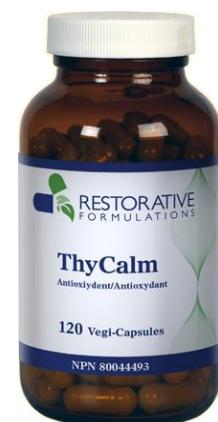
Minimum Constituent Bio Marker Per Dose

Rosmarinic Acid	111.6 mg
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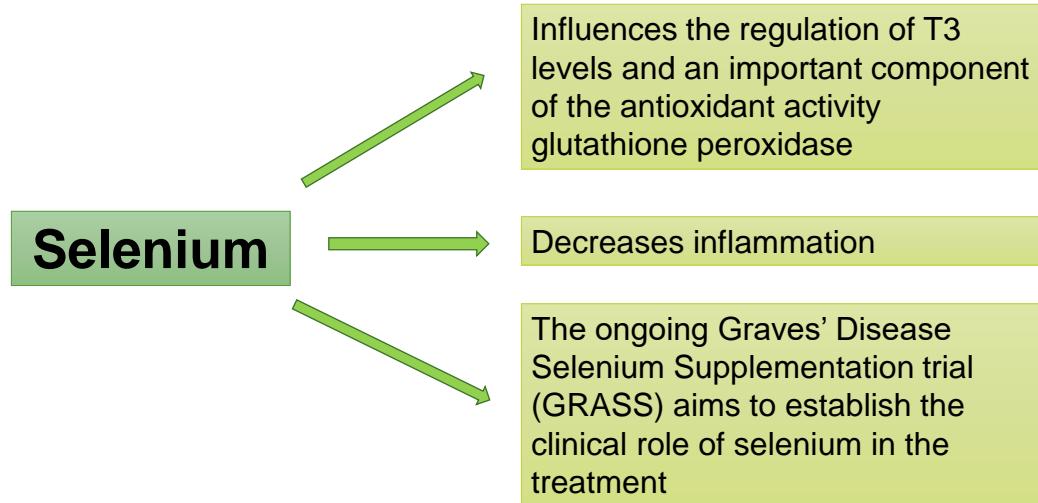
Each capsule is extracted from 7,451 mg of crude herbs
All Organic herbs are Certified Organic

Non-Medicinal Ingredients: hypromellose vegi-capsule, Omega 3 Powder

Ingredients non medicinaus: hypromellose vegi-capsule, Omega 3 Powder



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*Watt T, Cramon P, Björner J, Bonnema S, Feldt-Rasmussen U, Gluud C. Selenium supplementation for patients with Graves' hyperthyroidism (the GRASS trial): study protocol for a randomized controlled trial. *Trials*. 2013;14:119

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Bugleweed (*Lycopus virginicus*)

- Reduces thyroid hormone levels, as shown in a 4 week study with mildly hyperthyroid patients
 - 72.6% showed reduction in hormone values (41.2% for control); and most kept steady for 2 more years!
- Another study showed that it binds with antibodies to help treat Grave's Disease

Eiling R, et al. [Improvement of symptoms in mild hyperthyroidism with an extract of *Lycopus europaeus* (Thyreogutt® mono)]. *Wien Med Wochenschr*. 2013 Feb;163(3-4):95-101
 Harvey, R. *Lycopus europaeus* L. And *Lycopus virginicus* L.: A review of scientific research. *BJ Phytotherapy* 4 (20, 55-65) 1995.

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Rosmarinic Acid for Hyperthyroidism

Rosmarinic acid is a compound found in many plants:

Melissa officianalis (Lemon Balm)

Lycopus europeas (Gypsywort)

Lycopus virginia (Bugleweed)

Rosemarinus (Rosemary)

All have been traditionally used for hyperthyroid symptoms.

Keyvan Dastmalchi et al. *Chemical composition and in vitro antioxidative activity of a lemon balm (Melissa officinalis L.) extract* **Food Science and Technology**, Volume 41, Issue 3, April 2008, Pages 391-400

Carnat, A. Carnat, D. Fraisse, J. L. Lamaison. *The aromatic and polyphenolic composition of lemon balm (Melissa officinalis L. subsp. officinalis) tea* **Pharmaceutica Acta Helveticae**, Volume 72, Issue 5, January 1998, Pages 301-305

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Rosmarinic Acid – How Does It Work?

- Based on animal studies, rosmarinic acid is hypothesized to inhibit specific enzymes- this prevents TSH from stimulating the thyroid gland
- Suppress excess thyroid hormone production

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Rosmarinic Acid in Autoimmune Conditions

- Anti-inflammatory actions
- Used to alleviate autoimmune responses
- Also appears useful in asthma, allergies, and other immune-driven conditions

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ThyCalm for Hyperthyroid

Formula

Each/Chaque vegi cap contains:

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Selenium (selenomethionine)	100 mcg
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Organic Lemon Balm (Melissa officinalis) Polyphenol 4%	189 mg
Rosemary extract 45:1(Rosmarinus officinalis)	155 mg
Organic Blue Flag (Iris versicolor)	9.5 mg

Minimum Constituent Bio Marker Per Dose

Rosmarinic Acid 111.6 mg

Each capsule is extracted from 7,451 mg of crude herbs
All Organic herbs are Certified Organic

Non-Medicinal Ingredients: hypromellose vegi-capsule, Omega 3 Powder

Ingredients non medicinaux: hypromellose vegi-capsule, Omega 3 Powder



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Recommendations

- Initial dosage- 3 caps BID. Should feel improvement in symptoms within 3-4 weeks.
- Increase to 4-5 BID or 3 TID if no improvement.
- Expect T3 and T4 to decline within 8 weeks; TSH should increase within 2-4 months.
- The typical maximum dose is 10 caps daily, although up to 15 caps can be tolerated.
- Can start to wean off formula about 4- 9 months.

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Neurological Support Formulas

Not Just Organic ... CERTIFIED ORGANIC

95% Certified Organic or Ecologically Wildcrafted Thyroid Support

[View Complete Line](#)

 Four bottles of Restorative Formulations neurological support formulas are displayed in a row. From left to right: Thyroid Px (75 Vegetarian Capsules), ThyroCare (75 Vegetarian Capsules), ThryoCalm Px (120 Vegetarian Capsules), and Iodine Px (60 Vegetarian Capsules). Each bottle has a dark brown glass body with a white label featuring the Restorative Formulations logo and product name. The bottles are set against a dark blue background with a subtle gradient and a white arrow pointing to the left.

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Neuro-Protect Px



Formula

Each/Chaque vegi cap contains:

Organic Ashwaghandha Extract 10:1	400 mg
Organic Lion's Mane, fruiting body 25% Beta-glucans [12 Diterpene Derivatives (HPLC)*]	200 mg
Minimum Constituent Bio Marker	
Beta-glucans	50 mg
† Daily Value Not Established Organic Herbs are Certified Organic	

Other Ingredients: Modified Vegetable Cellulose (capsule)

* 5 x Concentration

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Lion's Mane- Certified Organic

- Neuro-Protect Px supports neuronal health and balances the neurotransmitters which have a positive effect on brain health, memory, and cognition.
- Terpenoids and polysaccharides derived from lion's mane are neuroprotective.
- Supports neurotransmitter synthesis including acetylcholine.
- Supports the production of nerve growth factor (NGF).

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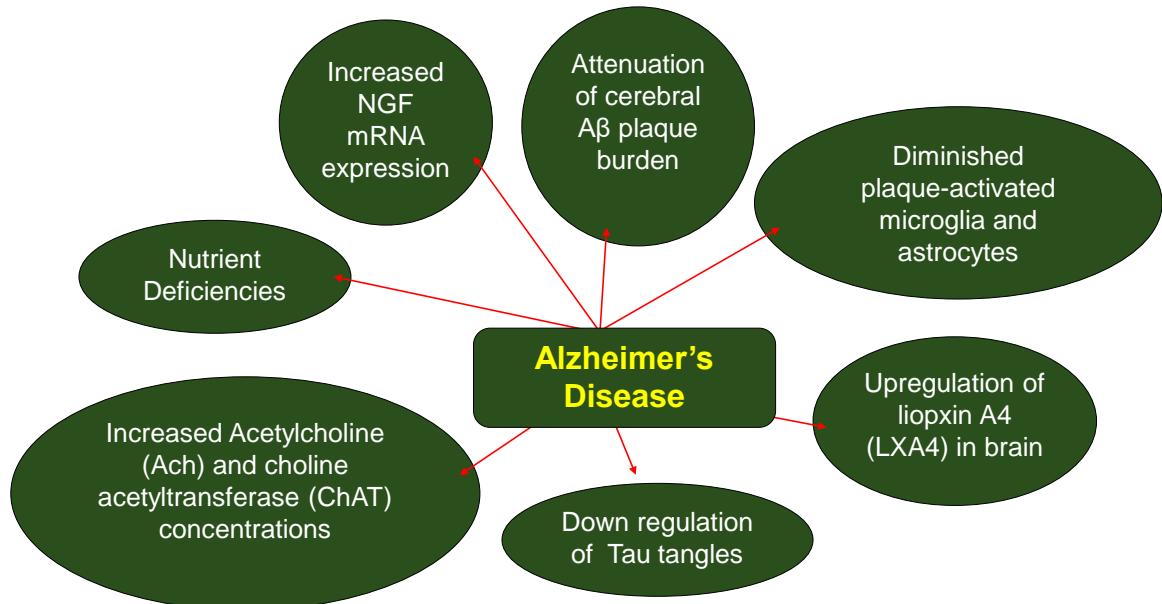
Lion's Mane

Restorative Formulations' lion's mane was found to have the largest variety of terpenoids (12 total) as identified by HPLC chromatography.

	Restorative Formulations	Brand A	Brand B	Brand C	Brand D	Brand E
Terpenoids						
Target 1	0.49	0.09	0	0	0	0
Target 2	0.74	0.55	0	0	0	0
Target 3	1.33	2.68	2.19	0.19	0	0
Target 4	0.43	0.93	0.67	0.1	0.02	0
Target 5	5.95	0.48	NA	0.01	0.01	0
Target 6	5.49	0.32	NA	0	0.01	0
Target 7	2.84	0.64	NA	NA	0.02	0
Target 8	6.98	NA	0.06	NA	NA	0
Target 9	6.29	3.84	0.51	0.15	0.1	0
Target 10	4.86	2.46	0.42	0.04	0.08	0
Target 11	2.37	2.73	0.49	0.05	0.1	0
Target 12	6.92	2.41	0.59	0.04	0.06	0
Total Terpenoids	44.69	17.13	4.93	0.58	0.4	0

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MOA of *H. erinaceus* in Alzheimer's Disease



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Withania as Medhya Rasayna

Over 40 researched active constituents, including:

- Withanolides
- Withaferin A
- Withanone

Dutta, K., Patel, P., Rahimian, R., Phaneuf, D., Julien, J.P., 2017a. *Withania somnifera* Reverses Transactive Response DNA Binding Protein 43 Proteinopathy in a Mouse Model of Amyotrophic Lateral Sclerosis/Frontotemporal Lobar Degeneration. *Neurotherapeutics* 14, 447-462.

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Withania as Medhya Rasayna

Actives of Withania promote

- neurite outgrowth
- synaptic construction

in various in vitro and in vivo models of neurodegeneration

Tohda C, Kuboyama T, Komatsu K (2000) Dendrite extension by methanol extract of Ashwagandha (roots of *Withania somnifera*) in SK-N-SH cells. *Neuroreport* 11:1981–1985 28. Zhao J, Nakamura N, Hattori M, Kuboyama T, Tohda C, Komatsu K (2002) Withanolide derivatives from the roots of *Withania somnifera* and their neurite outgrowth activities. *Chem Pharm Bull* 50(6):760–765 29. Kuboyama T, Tohda C, Zhao J, Nakamura N, Hattori M, Komatsu K (2002) Axon- or dendrite-predominant outgrowth induced by constituents from Ashwagandha. *Neuroreport* 13:1715–1752

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Withania as Medhya Rasayna

Withanolide A and withanoside IV

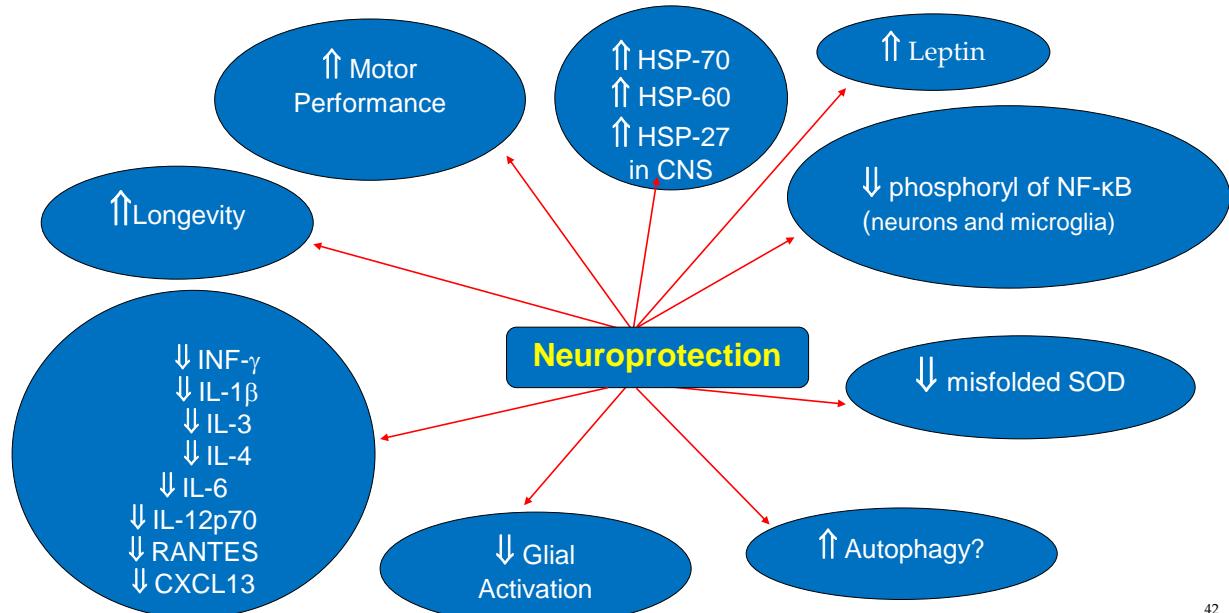
- improved memory deficits through neurite regeneration
- improved synaptic reconstruction

in models of amyloid β -induced neurodegeneration

Kuboyama T, Tohda C, Komatsu K (2005) Neuritic regeneration and synaptic reconstruction induced by withanolide A. *Br J Pharmacol* 144:961–971 31. Kuboyama T, Tohda C, Komatsu K (2006) Withanoside IV and its active metabolite, sominone, attenuate Ab (25-35)-induced neurodegeneration. *Eur J Neurosci* 23:1417–1426.

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W. somnifera in Neuroprotection



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Cytokine

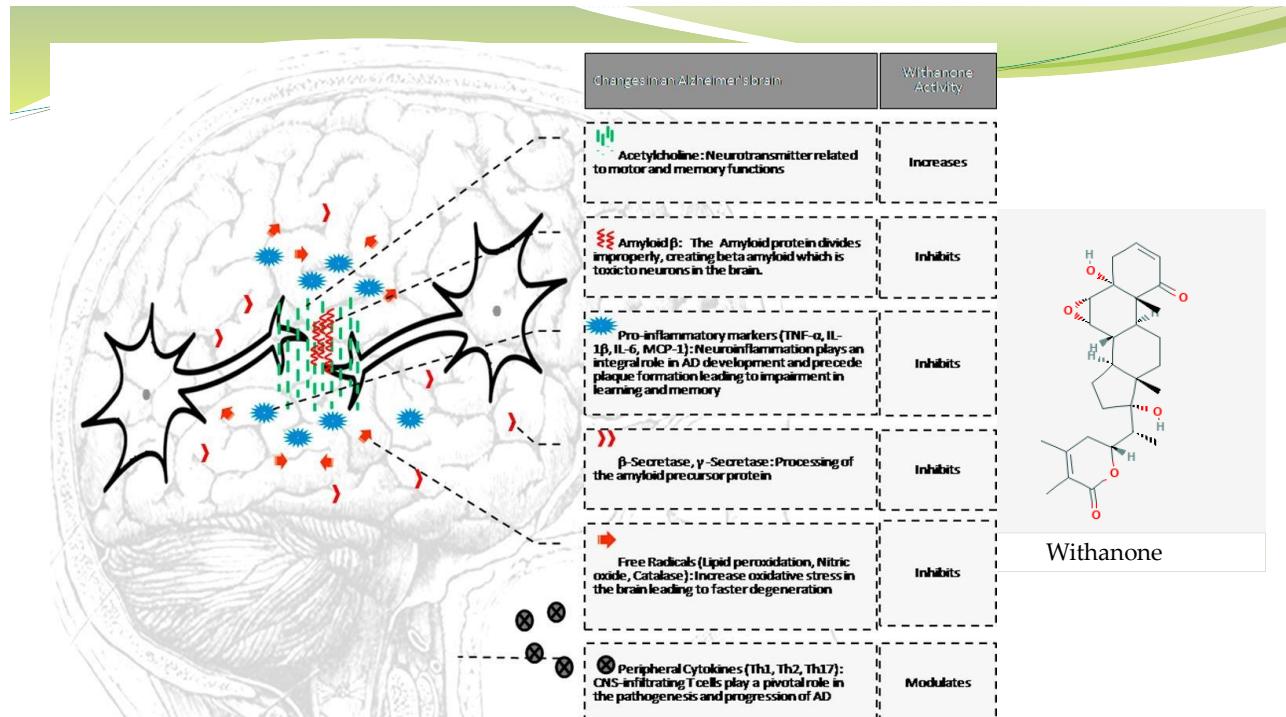
Volume 102, February 2018, Pages 211-221



Multifunctional neuroprotective effect of Withanone, a compound from *Withania somnifera* roots in alleviating cognitive dysfunction

Anjali Pandey ^a✉, Sarang Bani ^a✉, Prabhu Dutt ^b✉, Naresh Kumar Satti ^b✉, Krishan Avtar Suri ^b✉, Ghulam Nabi Qazi ^b✉

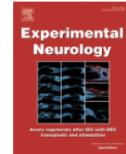
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Experimental Neurology
Volume 309, November 2018, Pages 193-204



Research Paper

Protective effects of *Withania somnifera* extract in SOD1^{G93A} mouse model of amyotrophic lateral sclerosis

Kallol Dutta ^a, Priyanka Patel ^{a, 1}, Jean-Pierre Julien ^{a, b}  

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Withania somnifera leaf alleviates cognitive dysfunction by enhancing hippocampal plasticity in high fat diet induced obesity model

Shaffi Manchanda and Gurcharan Kaur 

BMC Complementary and Alternative Medicine BMC series – open, inclusive and trusted 2017 17:136

<https://doi.org/10.1186/s12906-017-1652-0> | © The Author(s). 2017

Received: 5 November 2016 | Accepted: 24 February 2017 | Published: 3 March 2017

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[Molecular Neurobiology](#)

May 2017, Volume 54, [Issue 4](#), pp 3050–3061 | [Cite as](#)

Aqueous Leaf Extract of *Withania somnifera* as a Potential Neuroprotective Agent in Sleep-deprived Rats: a Mechanistic Study

Authors

Authors and affiliations

Shaffi Manchanda, Rachana Mishra, Rumani Singh, Taranjeet Kaur, Gurcharan Kaur 

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Neuro-Protect Px Dosage

- 2 caps, 1-2 times daily = 800 mg lion's mane with maximum di-terpene concentration
- No known toxicity or contraindications

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Neuro-GI Px

Formula

Each/Chaque vegi capsule contains:

Aged Cascara Sagrada Bark	225 mg
Organic Triphala Fruit	100 mg
Organic Licorice Root	75 mg
Organic Angelica Root	75 mg
Organic Lemon Balm herb	75 mg
5 Hydroxytryptophan	50 mg

All Organic Herbs are Certified Organic
† Daily Value not established

Other ingredients: Vegetable Capsule (cellulose)



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Neuro-GI Px

- Neuro-GI Px supports the body's natural elimination process with stimulating herbs, balancing neurotransmitters, all complemented by soothing herbs.
- Supports the gut-brain axis by providing nutrients and compounds which are necessary for the production of key neurotransmitters which coordinate gastrointestinal motility.

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5-HTP

- Supports the synthesis of serotonin and triggers serotonin receptors in the intestinal tract. These receptors activate acetylcholine synthesis, a neurotransmitter which stimulates colon peristalsis.

O'Mahony SM, et al. Serotonin, tryptophan metabolism and the brain-gut-micribiome axis. *Behavioural Brain Research* 277, 15 January 2015, Pages 32-48

Rahul Mittal et al. Neurotransmitters: The critical modulators regulating gut-brain axis. *J Cell Physiol*. 2017 September ; 232(9): 2359–2372.

Andresen V, et al. Effects of 5-hydroxytryptamine (serotonin) type 3 antagonists on symptom relief and constipation in nonconstipated irritable bowel syndrome: a systematic review and meta-analysis of randomized controlled trials. *Clin Gastroenterol Hepatol*. 2008 May;6(5):545-55

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Triphala

- Triphala, composed of *Emblica officinalis*, *Terminalia chebula*, and *Terminalia bellirica*, provides a gentle, non-habit forming laxative effect. Combined, they also support a strong intestinal muscle wall for efficient contractions. Contains compounds which support a healthy intestinal lining.

Tarasiuk et al. Triphala: current applications and new perspectives on the treatment of functional gastrointestinal disorders *Chin Med* (2018) 13:39.

52

Cascara sagrada

- Cascara contains anthraquinone derivatives to stimulate peristalsis of the large intestine.

Cirillo C, Capasso R. Constipation and Botanical Medicines: An Overview. *Phytother Res*. 2015 Oct;29(10):1488-93.

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Neuro-GI Px Dosage

- Two capsules, 1-2 times daily. Do not exceed recommended amount.
- Avoid use if abdominal pain, nausea, vomiting or diarrhea.
- Discontinue use in the event of diarrhea or watery stools.
- Contraindicated with SSRIs and MAO inhibitors (related to 5-HTP).

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Thank You!