



Navigating Lyme and Chronic Complex Disease

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Feng J, Leone J, Schweig S, Zhang Y. Evaluation of Natural and Botanical Medicines for Activity Against Growing and Non-growing Forms of *B. burgdorferi*. Front Med (Lausanne). 2020 Feb 21;7:6. doi: 10.3389/fmed.2020.00006. PMID: 32154254; PMCID: PMC7050641.

ACTIVE SPIROCHETES

Cryptolepis sanguinolenta

Polygonum cuspidatum (Japanese Knotweed)

STATIONARY PHASE BORRELIA (LYME)

Cryptolepis sanguinolenta

Juglans nigra (Black walnut)

Polygonum cuspidatum (Japanese knotweed)

Artemisia annua (Sweet wormwood)

Uncaria tomentosa (Cat's claw)(Not POA form)

Cistus incanus

Scutellaria baicalensis (Chinese skullcap)

Treatment of Lyme (Borrelia): NutraMedix Herbals

Important to cover all forms of Borrelia

SPIROCHETES: ACTIVE PHASE

Cryptolepis
Samento (Cat's Claw-Uncaria Tomentosa)
Banderol (Otoba)
Stevia
NutraBRL (Samento, Banderol, Stevia)
(Jap Knotweed)

STATIONARY PHASE

Samento
Banderol
Stevia
NutraBRL (Samento, Banderol, Stevia)
Cryptolepis
Artemisia
Baikal Skullcap
Stevia
Teasel
(Jap Knotweed)

Samento (Cat's Claw: Uncaria Tomentosa)

Unique form of POA Cat's Claw

Oxindole Alkaloids: • Tetracyclic Oxindole Alkaloids (TOAs) (rhynchophylline & isorhynchophylline)

- **Immune Stimulator with TOA alkaloids**

Pentacyclic Oxindole Alkaloids (POAs) (speciophylline, uncarine F, mitrapiyline, isomitraphylline, pteropodine, isopteropodine)

- **Immune Modulator with POA alkaloids: safe and helpful for autoimmune disease**



Samento (Cat's Claw: Uncaria Tomentosa Bark extract)

Anti-microbial:

- Borrelia: round(cyst) stationary forms and active spirochetes stronger with Banderol

Immune Modulator

Anti-inflammatory (Study with improvement in Rheumatoid Arthritis)

Anti-oxidant

Blood glucose regulation

Blood pressure regulation

Neurocognitive support

Products: Individual (1 oz. and 2 oz sizes)

- GlucoMedix: Samento and Stevia
- MoodMedix: Samento and Turmeric (Avea)
- RelaxMedix: Samento and Valerian (Amantilla)
- VitalMedix: Samento and Moringa (source of vitamins, minerals, iron, protein)
- NutraBRL: Samento, Banderol, Stevia



Banderol (Banderilla: Otoba Parvifolia bark extract)

Anti-microbial: Considered one of the “KEEP’s: Kills Everything Except People”

Borrelia: part of CSP and often used with Samento as frontline therapy, with Samento research on decreasing stationary phase

Anti-protozoa: parasites, leishmania, tripanosoma

Anti-fungal: (primary anti-fungal- Cumanda)

Anti-inflammatory

Products: Individual 1 oz and 2 oz

- NutraBRL: Samento, Banderol, Stevia

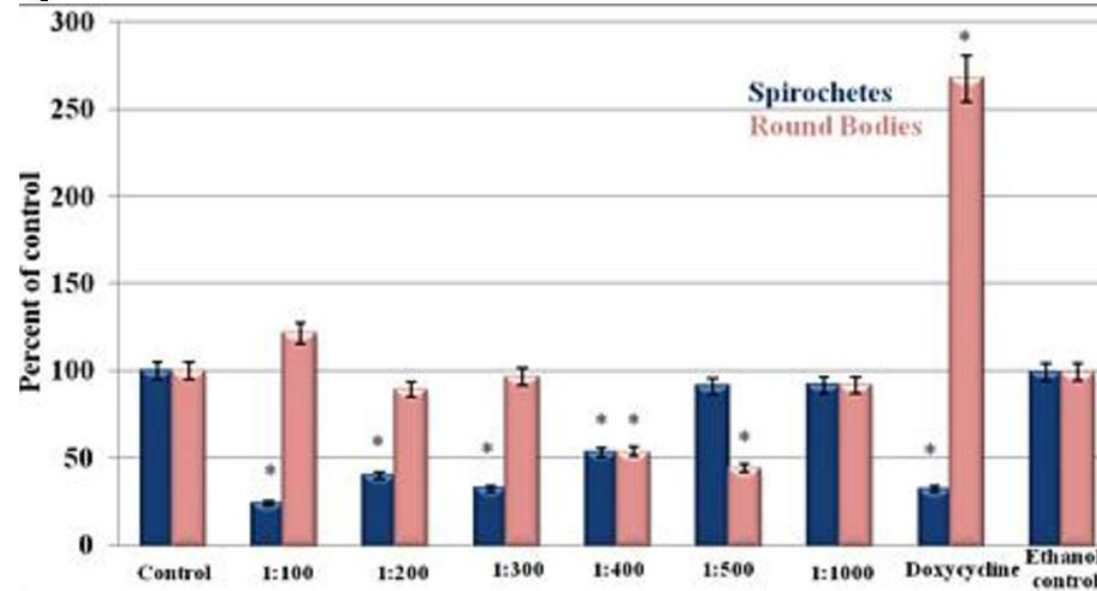


Datar A., Kaur N., Patel S., Luecke D., Sapi E. In vitro effectiveness of samento and banderol herbal extracts on the different morphological forms of *Borrelia burgdorferi*. *Townsend Lett.* 2010;7:1–4.

Spirochetes – blue

Round bodies – tan

Figure 1B



Samento, Banderol, and then the combination of both decreased both spirochetes and round bodies where Doxycycline only decreased the active spirochete forms of *Borrelia*

Samento: Lyme Disease Study with NutraMedix Samento

Pilot Study: Effective Treatment of Lyme Borreliosis with Pentacyclic Alkaloid Uncaria tomentosa (TOA-free Cat's Claw), Dallas, Texas, 2003.

6-month prospective cohort study in 28 patients with advanced, laboratory-confirmed (IgG, IgM) *Borrelia burgdorferi* infection

Compared the efficacy of treatment with NutraMedix TOA-free Cat's Claw to standard antibiotic treatment

The control group (n=14) was treated with antibiotics

- 3 improved slightly
- 3 got worse
- the rest remained with no change in their clinical condition

Compared to control, more patients in the Samento treatment group experienced improvements in all symptoms by the end of the study, including neurological symptoms and fatigue ($p < 0.05$)

100% of patients experienced marked clinical improvement 85% were seronegative for Lyme borreliosis

Stevia: Stevia rebaudiana leaf

Anti-bacterial

- Borrelia: research on helping with biofilms

Anti-viral: research for rotavirus

Blood pressure support

Blood glucose regulation

Anti-inflammatory

Anti-oxidant

Products: Individual 1 oz and 2 oz

- GlucoMedix: Samento and Stevia
- NutraBRL: Samento, Banderol, Stevia



Biofilm Research with Stevia A NutraMedix

Sapi E. et al. Evaluation of in-vitro antibiotic susceptibility of different morphological forms of *Borrelia burgdorferi*. Infect Drug Resist 4, 97–113 (2011)

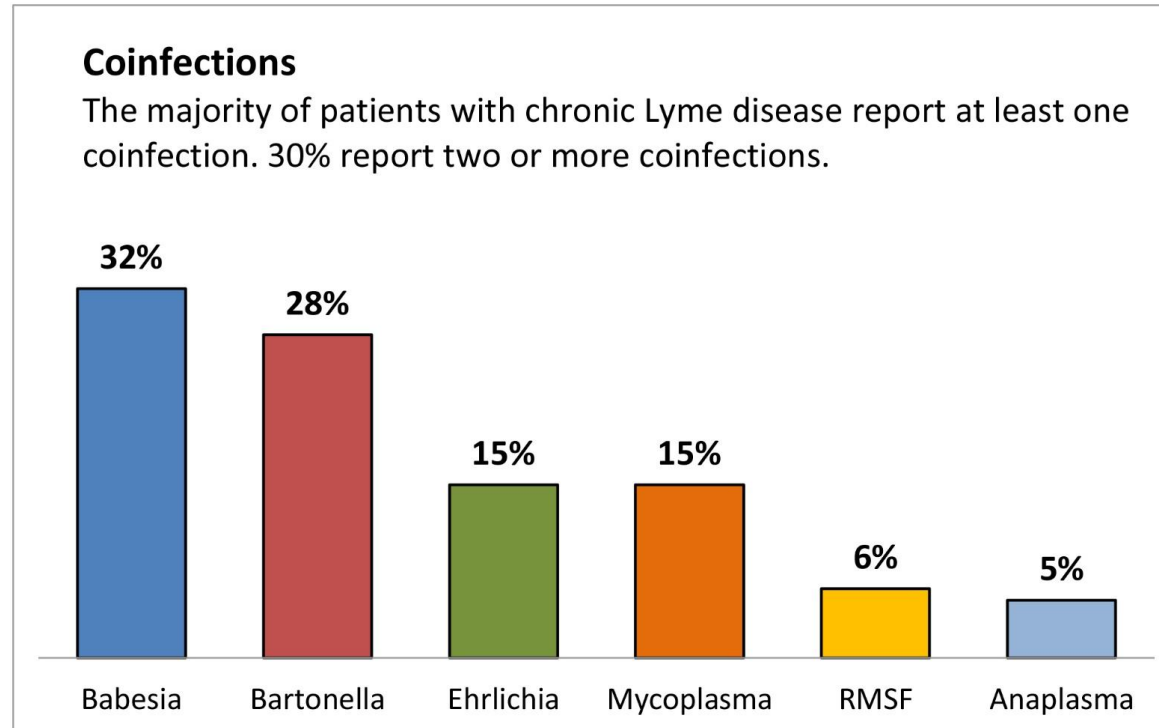
The biofilms treated with the 3 antibiotic combination (cefoperazone, daptomycin, and doxycycline) had a mixture of live and dead cells, with live cells predominating.

The biofilms treated with Stevia A stained had mainly dead spirochetes /round bodies

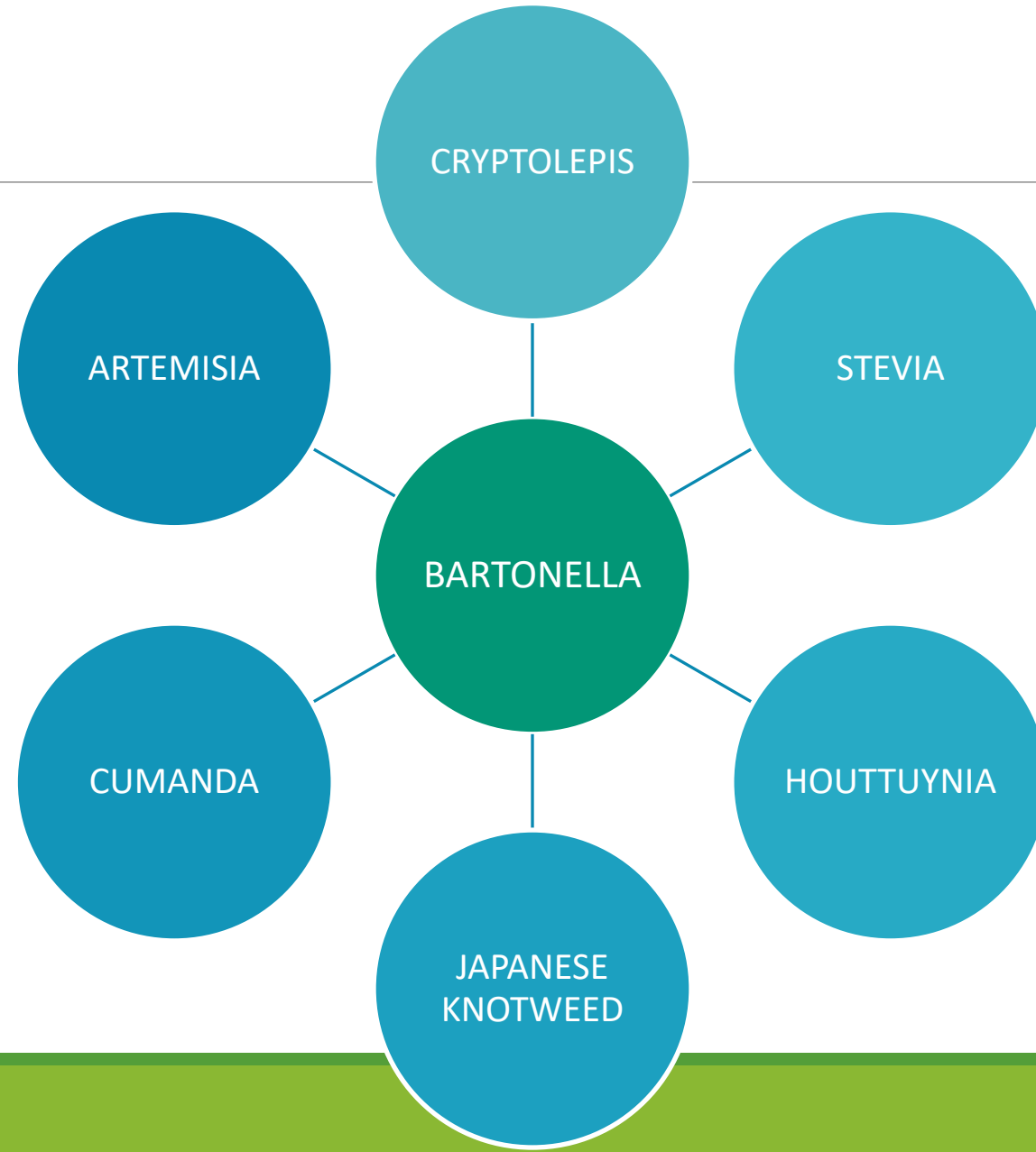
NutraMedix Stevia significantly reduced *B. burgdorferi* biofilm forms by about 40%.

Co-Infections with Lyme

Babesia reports up to 40% coinfections



Ma X, Leone J, Schweig S, Zhang Y. Botanical medicines with activity against stationary phase *Bartonella henselae*. Infect Microb Dis. 2021;3(3):158-167.



Cumanda (Campsandra augustifolia bark)

Anti-microbial “KEEP: Kills Everything Except People”

Anti-bacterial: Lyme and co-infections

Often used with Houttuynia for Bartonella

Anti-fungal (primary anti-fungal herb)

Anti-viral

Anti-parasitic

Anti-inflammatory

Product: Individual 1 oz and 2 oz

- NutraBRT: Cumanda and Houttuynia



Houttuynia (Houttuynia cordata)

Anti-bacterial (including Bartonella and mycoplasma)

Anti-viral

Immune modulator including helping with

- Mast cell issues and IgE: allergic immune modulation
- Decrease Th2 response

Hepatoprotective

Anti-inflammatory

Products: Individual 1 oz

- Nutra-BRT: Houttuynia and Cumanda



Antiviral Effects of Houttuynia

Coronaviruses including SARSCov2

HSV-1 and HSV-2

Human immunodeficiency virus (HIV)

Epstein-Barr virus

Human papillomavirus (HPV)

Influenza viruses

Zika virus (ZIKV)

Human noroviruses (HuNoVs) significantly suppressed the infectivity of MNV-1 to an undetectable level.

Respiratory Syncytial Virus (RSV)

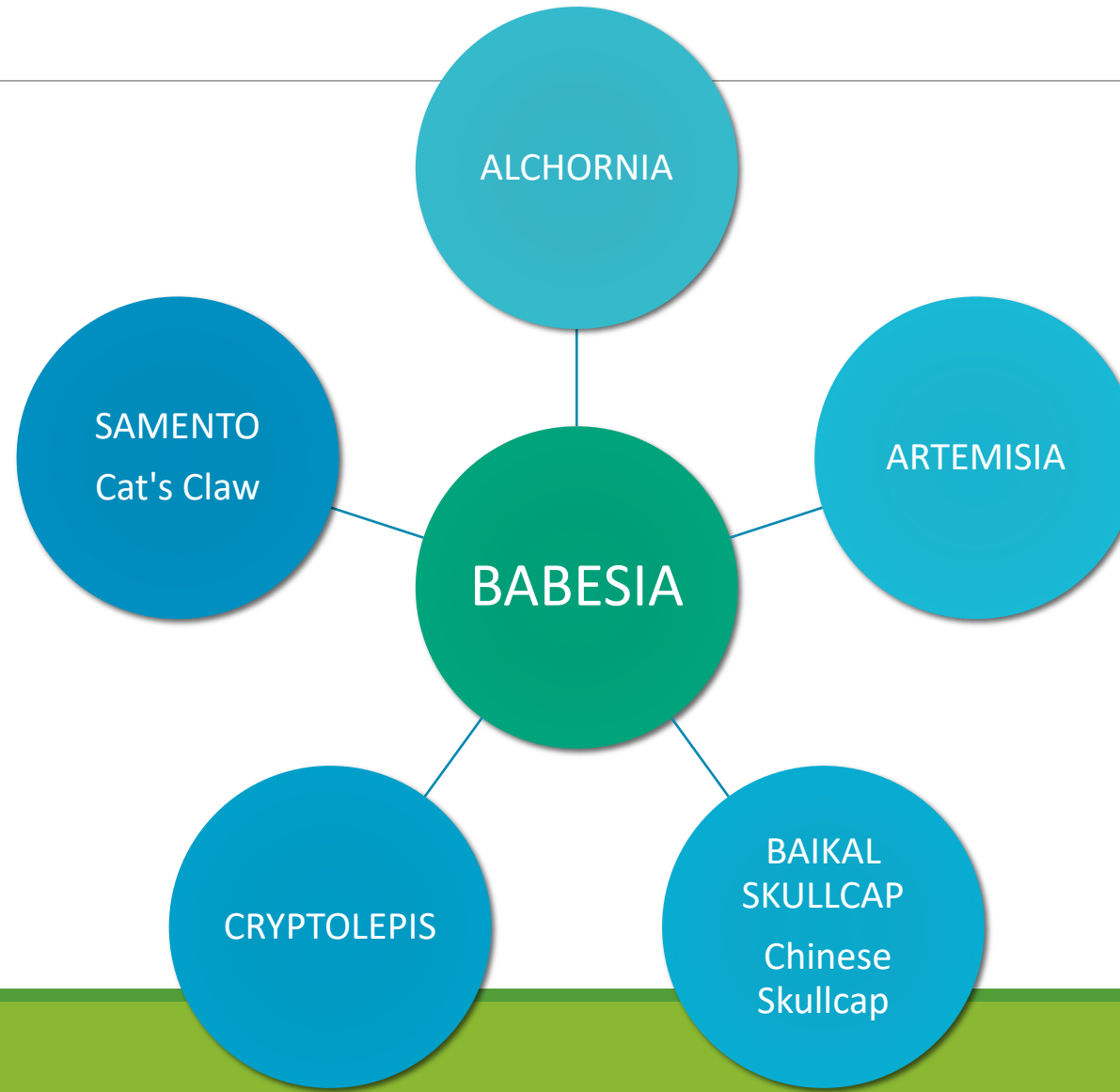
Dengue virus

Enterovirus 71

Coxsackievirus A16, causative agents of hand, foot, and mouth disease

Laldinsangi C. The therapeutic potential of *Houttuynia cordata*: A current review. Heliyon. 2022 Aug 24;8(8):e10386. doi: 10.1016/j.heliyon.2022.e10386. PMID: 36061012; PMCID: PMC9433674.

Zhang, Y., *et al.* (2021) Botanical Medicines *Cryptolepis sanguinolenta*, *Artemisia annua*, *Scutellaria baicalensis*, *Polygonum cuspidatum*, and *Alchornea cordifolia* Demonstrate Inhibitory Activity Against *Babesia duncani*. *Frontiers in Cellular and Infection Microbiology*. doi.org/10.3389/fcimb.2021.6



Cryptolepis

- Anti-bacterial
- Anti-malarial
- Anti-parasitic
- Anti-protozoal: Babesia
- Anti-fungal
- Anti-inflammatory
- Products:
 - Individual
 - NutraBBS (Cryptolepis, Jalap, Elecampane)
 - NutraBBS+ (Artemisa, Cryptolepis, Jalap, Elecampane)



Artemisia annua

- Anti-protozoa (ex. Malaria- Babesia)
- Anti-parasitic
- Anti-viral
- Anti-inflammatory
- Products: Individual
 - Nutra-BBS+: Artemisa, Cryptolepis, Jalap, Elecampane



Baikal Skullcap (Chinese Skullcap)

Flavonoid

Anti-borrelia: stationary forms, biofilms

Synergistic with other herbs

Anti-bacterial

Anti-viral:

Anti-inflammatory

Anti-fungal

Immune modulator

Neuroprotective: penetrates BBB, decreases amyloid beta toxicity

Support cognitive function

Product: Individual 2 oz and ImmuneMedix



Immune Modulating Agents

- **Samento**
- **Houttuynia**
- **Baikal Skullcap**
 - All have immune modulation properties
 - Together, may address viruses, Lyme, Bartonella, Mycoplasma, Babesia, Candida, Mold, and more)



Die-Off Symptoms

Here is a list of some of the symptoms you might experience during a die-off (otherwise known as a Herxheimer reaction).

- Nausea
- Headache, fatigue, dizziness
- Swollen glands
- Bloating, gas, constipation or diarrhea
- Increased joint or muscle pain
- Elevated heart rate
- Chills, cold feeling in your extremities
- Body itchiness, hives or rashes
- Sweating
- Fever
- Skin breakouts
- Recurring vaginal, prostate and sinus infections

Herxheimer reaction

Herxheimer Treatment

Burbur-Pinella daily during treatment

- For acute or worsening symptoms: may use Burbur-Pinella hourly until resolve symptoms

Binder Plus as needed in between meals

Liposomal Glutathione

Burbur-Pinella (Desmodium molliculum leaf and Pimpinella spp stems- Anise)

Primary detoxification formula

Primary herx prevention and treatment

Herx: may use every 10 min for acute herx symptoms

Liver, kidney, lymph, ground matrix, nervous system, brain, spinal, peripheral nerves

Shojaii, A., & Abdollahi Fard, M. (2012). Review of pharmacological properties and chemical constituents of Pimpinella anisum. *ISRN Pharmaceutics*, 2012



Acute Lyme Disease Treatment

Cover Lyme (Borrelia) and most common coinfections

Bartonella and Babesia

Acute Lyme and Tick Bite (Dr. Darin Ingels) 15-30 drops for 30 days and kids 5-6 drops for 30 days with max under 100 lbs 15 drops

- Samento (POA chemotype Cat's Claw- *Uncaria tomentosa*)
- Banderol (*Otoba parvifolia*)
- Cumanda (*Campsiandra augustifolia*)
- Burbur-Pinella-detox (*Desmodium molliculum* and *Pimpinella*)

Or

- NutraBRL (Samento, Banderol, Stevia)

Coverage for Bartonella- NutraBRT (*Houttuynia*, Cumanda (*Campsiandra*)) together or individually

Babesia:

- NutraBBS (*Elecampane*, *Jalap*, *Blackberry*, *Cryptolepis*)
- NutraBBS+ (*Elecampane*, *Jalap*, *Artemisia Annua*, *Cryptolepis*)
- *Artemisia* or *Cryptolepis*

First Line Herbal Therapy

Borrelia:

- Samento and Banderol plus/minus Stevia or NutraBRL

Bartonella:

- Cumanda and Houttuynia or NutraBRT

Babesia:

- Cryptolepis
- Artemisia
- NutraBBS+ (Elecampane, Jalap, Artemisia, Cryptolepis)
- NutraBBS (Elecampane, Jalap, Cryptolepis)

Supportive Lyme and Co-infection treatment

Anti-inflammatory/pain support

- Avea (Turmeric) or Curcumin capsules

Immune modulation

- Samento (POA cat's claw) may add also: Houttuynia, Baikal Skullcap

MCAS-mast cell support

- Houttuynia and Quercetin or future MCAS product

Anti-oxidant

- Liposomal glutathione and vitamin C

Mitochondrial dysfunction

- CoQ10, Carnitine, B vitamins

Mood/stress and sleep support

- Avea (Turmeric) and/or Amantilla (Valerian), Melatonin

Detoxification and Organ support: liver, kidney, lymph, glymphatics (brain)

- Burbur-Pinella and Dandelion (Mapalo, Sparga, Parsley)

Digestive-dysbiosis treatment

- Herbs –antifungal and anti-bacterial covered in anti-microbials
- Probiotics

Cowden Support Program +

Changed to 6 -month program with possible maintenance program afterwards with nutrient and detox support

Changed to 2 a day dosing for increased compliance

Changed to combination products: NutraBRL, NutraBRT, and NutraBBS+ - rotate monthly with 1 combination product

Includes additional nutritional support including detoxification support



Infections and Inflammation Guide

		Anti-Bacterial				Anti-Parasitic			Anti-Fungal				
		Lyme	Bartonella	Mycoplasma	Biofilm	Intestinal Protozoa	Blood Protozoa	Helminth	Candida	Mold			
Ingredient	Artemisia (<i>Artemisia annua</i>)	*			*	I	B	H					*
	Baikal Skullcap (<i>Scutellaria baicalensis</i>)	*				*	B		**	**	**	**	*
	Banderilla (<i>Otoba parvifolia</i>)	**		**	**	*	*		*	*			**
	Cryptolepis (<i>Cryptolepis sanguinolenta</i>)	**	**		*	I	B						*
	Huacapurana (<i>Campsiandra angustifolia</i>)	**	**	**	*	*	*		**	**			**
	Houttuynia (<i>Houttuynia cordata</i>)	*	**	**	*						**	**	*
	Resveratrol (<i>Polygonum cuspidatum</i>)	*	*		*	*	*						*
	Samento (<i>Uncaria tomentosa</i>)	**		**	**	*	B				*	**	**
	Stevia (<i>Stevia rebaudiana</i>)	*		**	**							**	*
	Takuna Blanca (<i>Cecropia strigosa</i>)	**				I	*	H			**		**
	Serrapeptase - Peptizyme SP				**	I	B	H					
	Oregon Grape (<i>Mahonia aquifolium</i>)					*	*		*	*			
	Noni (<i>Morinda citrifolia</i>)	*									*		
	Cascarilla (<i>Cinchona calisaya</i>)					I	*	H					
	Palo Santo (<i>Triplaris peruviana</i>)	*				*	*	*	**	**	*		

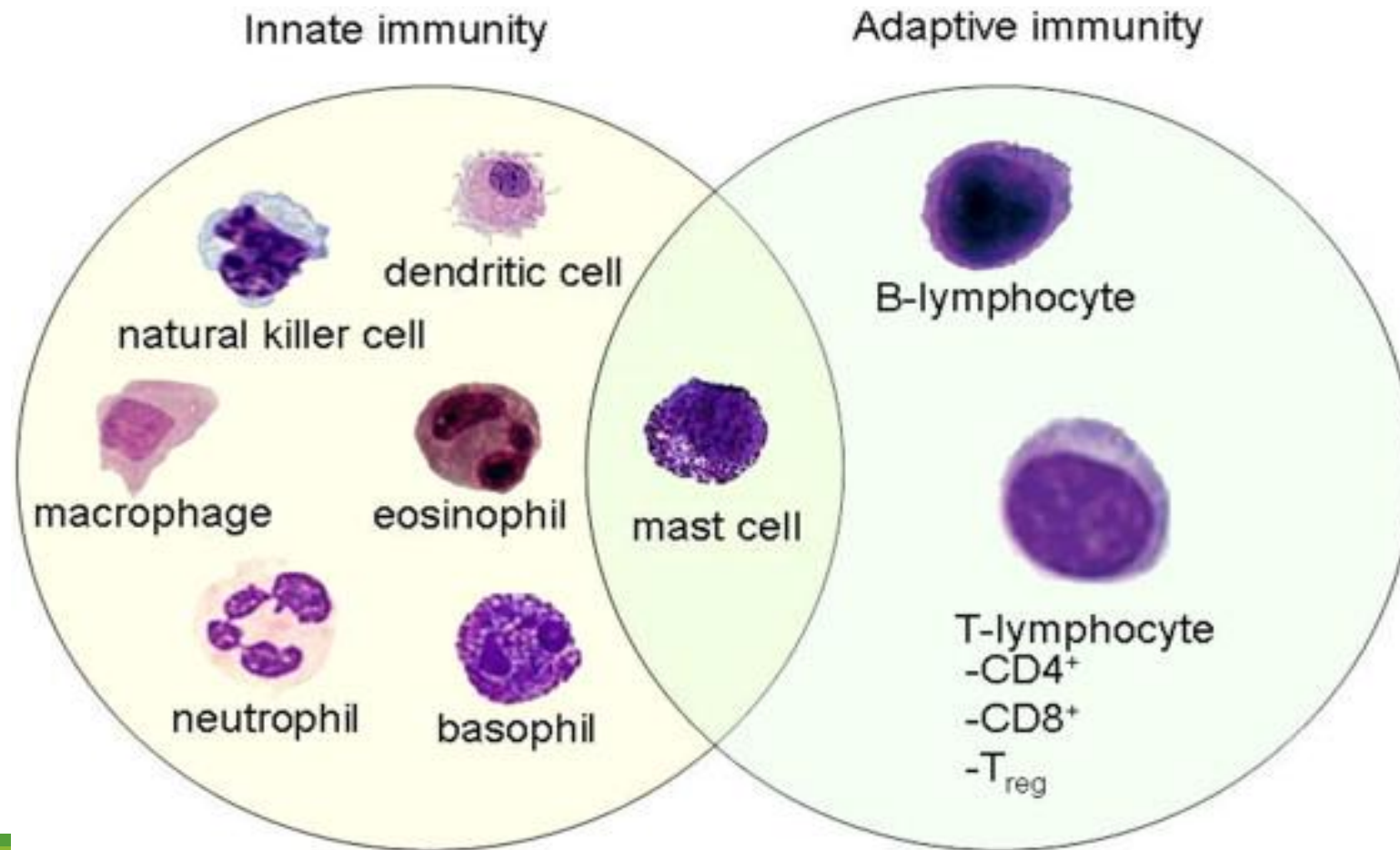
Infections and Inflammation Guide Key

*	Ingredient is commonly known to be effective.
**	Ingredient is commonly known to be effective and is recommended as first line of defense.
**	Samento and Banderilla are recommended for biofilm support when paired together.
I	For intestinal protozoa (ie. giardia, cryptosporidium, isospora, etc), it is recommended that this group of ingredients is taken together at their full dose.
B	For blood protozoa (ie. babesia, plasmodium, microfilaria, toxoplasma, etc), it is recommended that this group of ingredients is taken together at their full dose.
H	For helminths (ie. pin, round, hook worms & flukes), it is recommended that this group of ingredients is taken together at their full dose. Pumkpin seeds and black walnut are recommended for additional support.

Two types of immune response

Innate=Immediate immune response

Adaptive= Acquired or developed



Immune System

Immune enhancing- Immune system strengthen/increase

- Acutely help fight infections -increase innate or immediate immunity
(NK cells)

Immune system modulation/balance

- Decrease autoimmunity (Th17 response)
- Decrease allergies/mast cell activation (Th2 response)
- Decrease chronic inflammation: persistent or ongoing immune response
- Increase immune tolerance (helps decrease autoimmunity) (Treg response)
- Increase ability of immune system to fight infection if lowered (Th1 response)

Immune Modulating: Immune Homeostasis

Samento (POA chemotype only) Cat's claw

Houttuynia: IgE and mast cell modulation (Th2 response)

Baikal Skullcap

ImmuneMedix (both immune stimulating and immune modulating herbs)- contains Samento and Baikal Skullcap

ImmuneMedix

Noni Fruit Extract

Atragalus membranaceous root extract

Baikal Skullcap root extract

Ligustrum Fruit extract

Poria sclerotium extract (mushroom)

Goji berry extract

Prunella spike extract

White peony root extract

Reishi mushroom extract

Cordyceps mushroom extract

Uncaria tomentosa bark extract (Samento)



ImmuneMedix: Mechanisms of Action

Increase NK cells

Increase other immune cells including: macrophages, dendritic cells, T lymphocytes, B lymphocytes and microglia

Increase cytokines (cell to cell messengers)

Noni Fruit Extract (*Morinda citrifolia*)

Antibacterial

Antiviral

Antifungal

Antitumor

Antihelminth

Analgesic

Hypotensive

Anti-inflammatory

Immune enhancing effects

Products: Individual and part of ImmuneMedix

Wang MY. Et al. *Morinda citrifolia* (Noni): a literature review and recent advances in Noni research. *Acta Pharmacol Sin.* 2002 Dec;23(12):1127-41.

Noni Fruit Extract (*Morinda citrifolia*)

Immunostimulatory effects by activation and increase of the NK cell population.

Immunostimulatory role by activating innate and adaptive immune responses.

Hong YH. Et al. *Morinda citrifolia* noni water extract enhances innate and adaptive immune responses in healthy mice, ex vivo, and in vitro. *Phytother Res*. 2019 Mar;33(3):676-689.

Kim H. et al. NK cell-mediated immunostimulatory effects of ethanol extract of *Morinda citrifolia* (noni) fruit. *BMC Complement Med Ther*. 2022 Aug 22;22(1):222.

Lohani M. et al. Immunomodulatory actions of a Polynesian herb Noni (*Morinda citrifolia*) and its clinical applications. *Complement Ther Med*. 2019 Dec;47:102206.

Astragalus membranaceous root

Adaptogen- stress modulator

Immune stimulant (not for autoimmune)

Anti-inflammatory

Antioxidant

Hepatoprotective

Kidney support

Expectorant

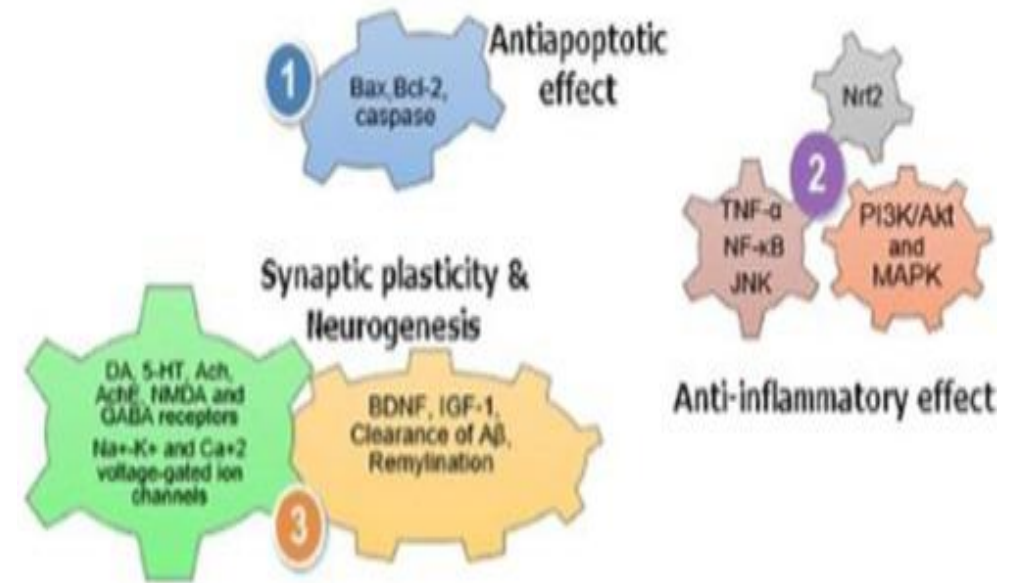
Neuroprotective- help with neuroplasticity



Astragalus membranaceus root- Immunomodulatory effects

Astragalus polysaccharide can promote the activities of macrophages, natural killer cells, dendritic cells, T lymphocytes, B lymphocytes and microglia and induce the expression of a variety of cytokines and chemokines.

APS significantly ameliorated the imbalance of linoleic acid (LA) and α -linolenic acid in polyunsaturated fatty acid (PUFA) metabolism



Li CX, Liu Y, Zhang YZ, Li JC, Lai J. Astragalus polysaccharide: a review of its immunomodulatory effect. Arch Pharm Res. 2022 Jun;45(6):367-389. doi: 10.1007/s12272-022-01393-3. Epub 2022 Jun 17. PMID: 35713852.

Baikal Skullcap (Chinese Skullcap)

Flavonoid

Anti-borrelia: stationary forms, biofilms

Synergistic with other herbs

Anti-bacterial

Anti-viral

Anti-inflammatory

Anti-fungal

Immune modulator

Neuroprotective: penetrates BBB, decreases amyloid beta toxicity

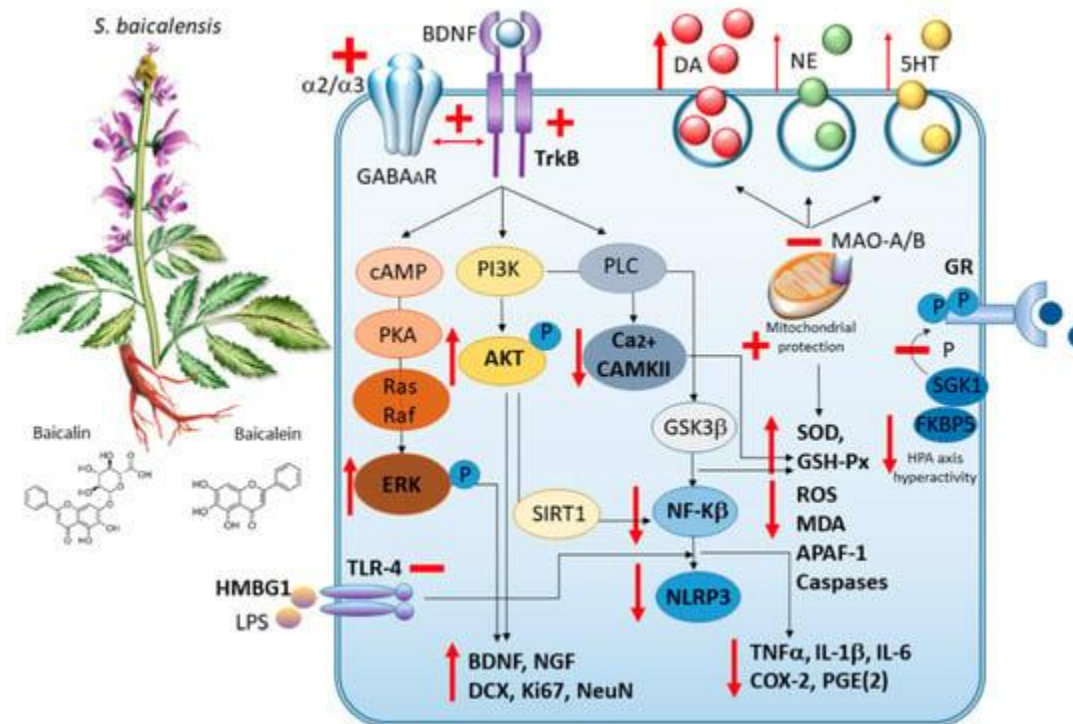
Increase mature BDNF for improving neuroplasticity

Support cognitive function

Product: Individual 2 oz and ImmuneMedix



Limanaqi F. et al. Potential Antidepressant Effects of *Scutellaria baicalensis*, *Hericium erinaceus* and *Rhodiola rosea*. *Antioxidants*. 2020; 9(3):234.



Ligustrum lucidum fruit

Anti-osteoporosis

Anti-tumor

Liver protective

Antioxidant

Anti-inflammatory

Immunomodulatory

Chen L. et al. A review of botany, phytochemistry, pharmacology, and applications of the herb with the homology of medicine and food: *Ligustrum lucidum* W.T. Aiton. Front Pharmacol. 2024 Jun 12;15:1330732.

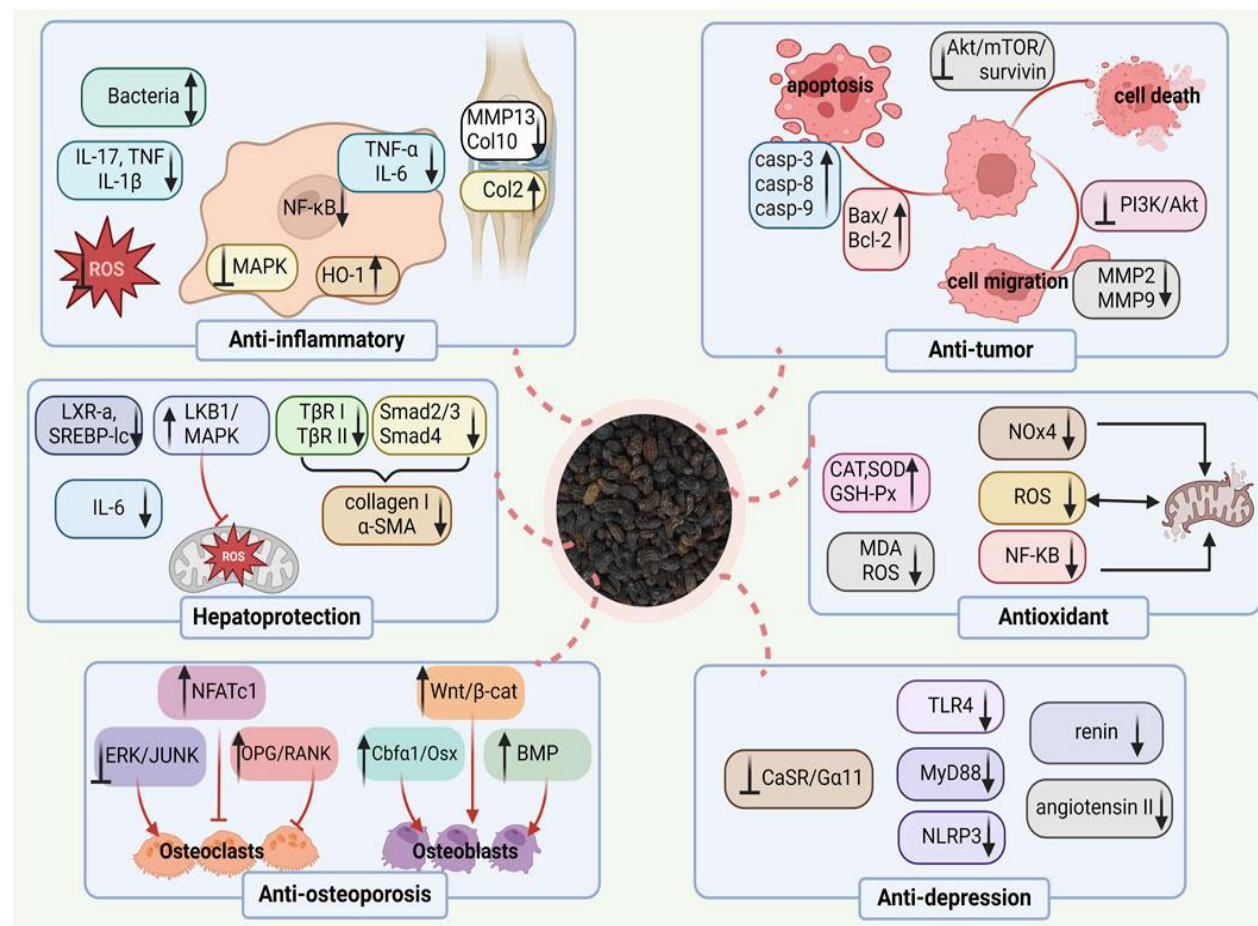
Hu B. et al. Ligustrum lucidum Ait. fruit extract induces apoptosis and cell senescence in human hepatocellular carcinoma cells through upregulation of p21. Oncol Rep. 2014 Sep;32(3):1037-42.



Ligustrum lucidum fruit

Chen L. et al. A review of botany, phytochemistry, pharmacology, and applications of the herb with the homology of medicine and food: *Ligustrum lucidum* W.T. Aiton. Front Pharmacol. 2024 Jun 12;15:1330732.

Liu J. et al. Bioactivity-guided isolation of immunomodulatory compounds from the fruits of *Ligustrum lucidum*. J Ethnopharmacol. 2021 Jun 28;274:114079.



Poria Cocus Mushroom: (filaments under mushroom cap)

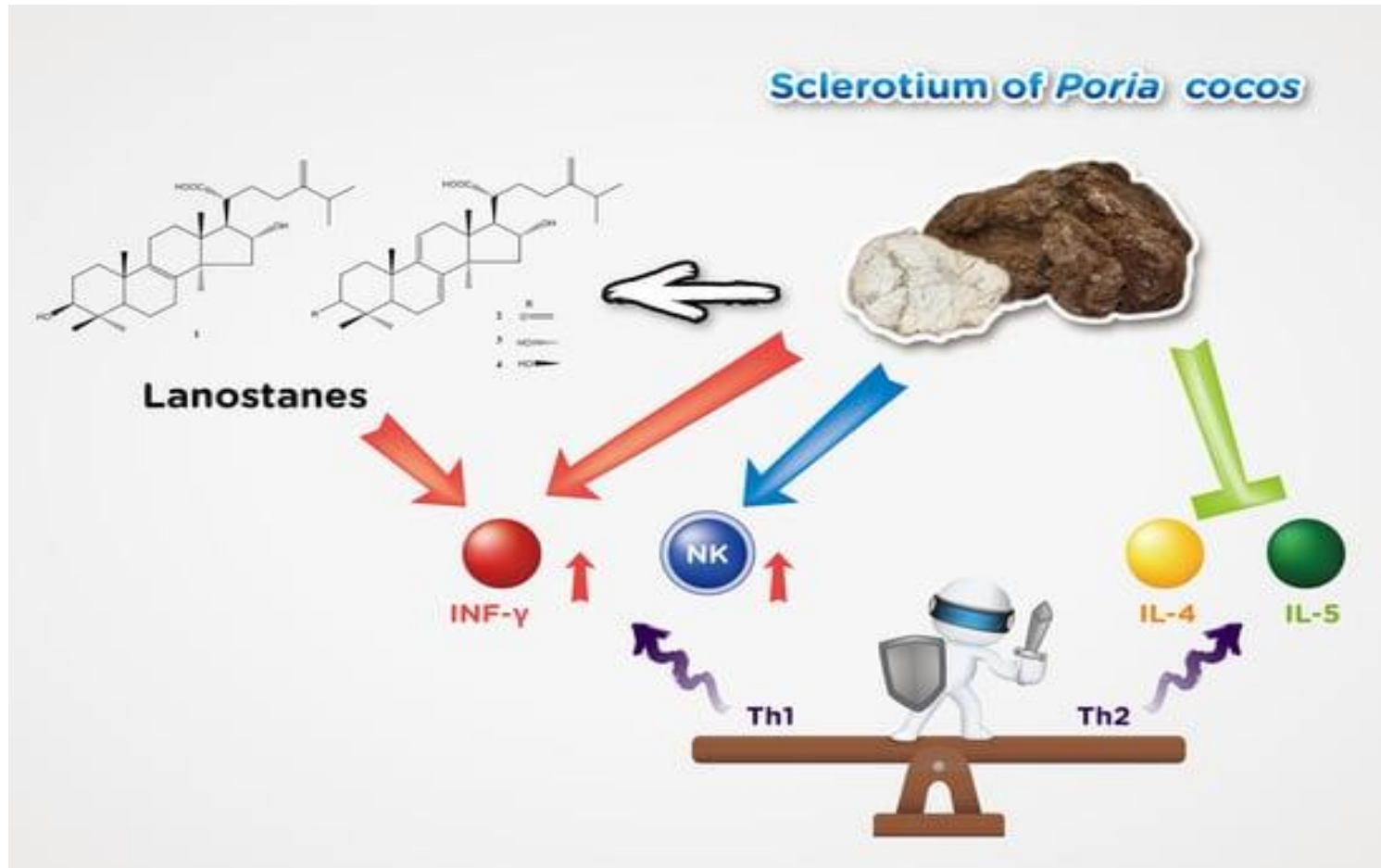
Immune modulation

Anti-inflammatory



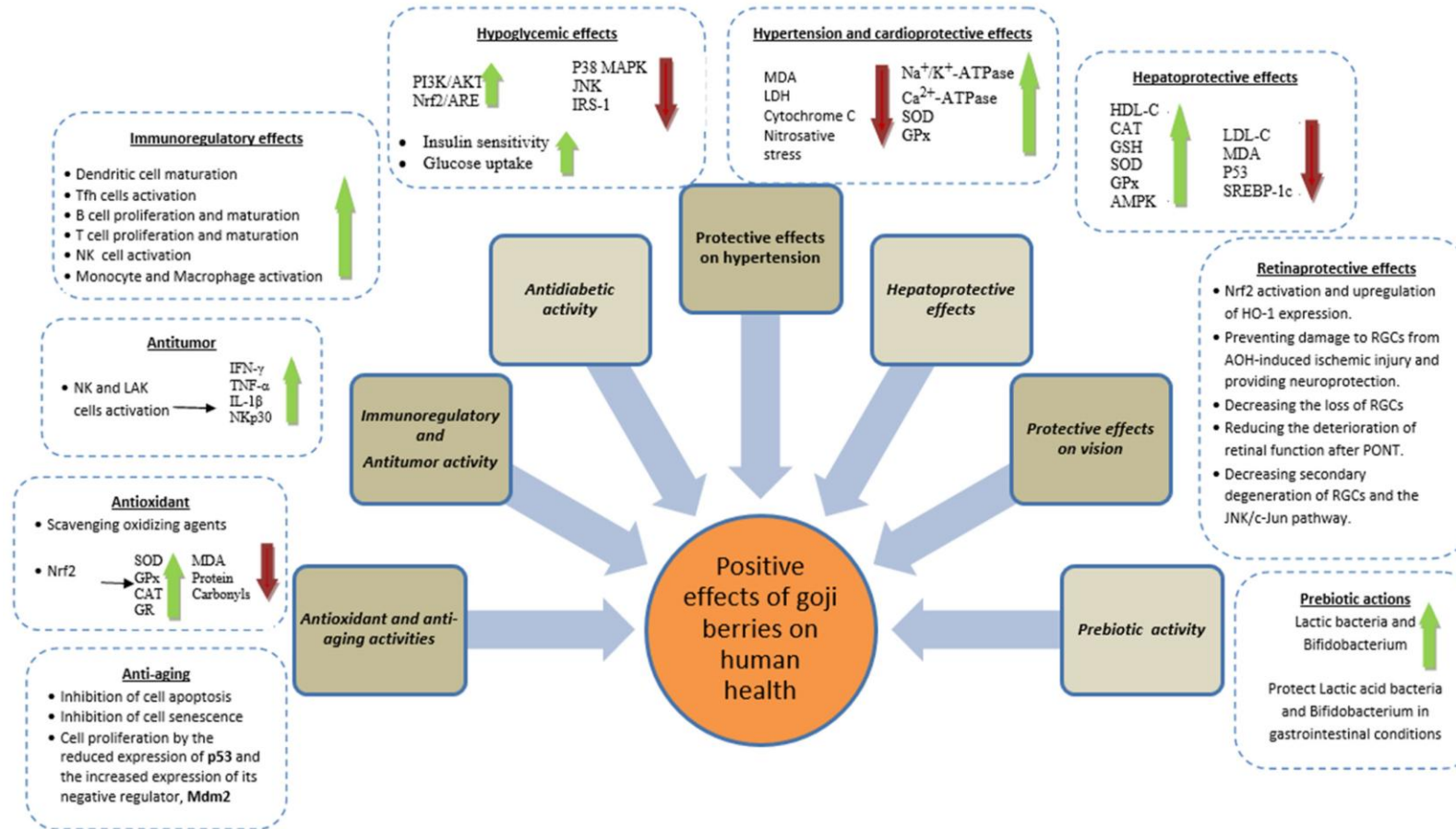
Poria cocos (filaments under mushroom cap)

Chao C-L. et al. The Lanostane Triterpenoids in *Poria cocos* Play Beneficial Roles in Immunoregulatory Activity. *Life*. 2021; 11(2):111.



Lycium barbarum fruit powder (Goji)

Skenderidis P. et al. Goji Berry: Health Promoting Properties. *Nutraceuticals*. 2022; 2(1):32-48.



Prunella vulgaris entire plant (heal all)

Anti-microbial

Cardio- protective

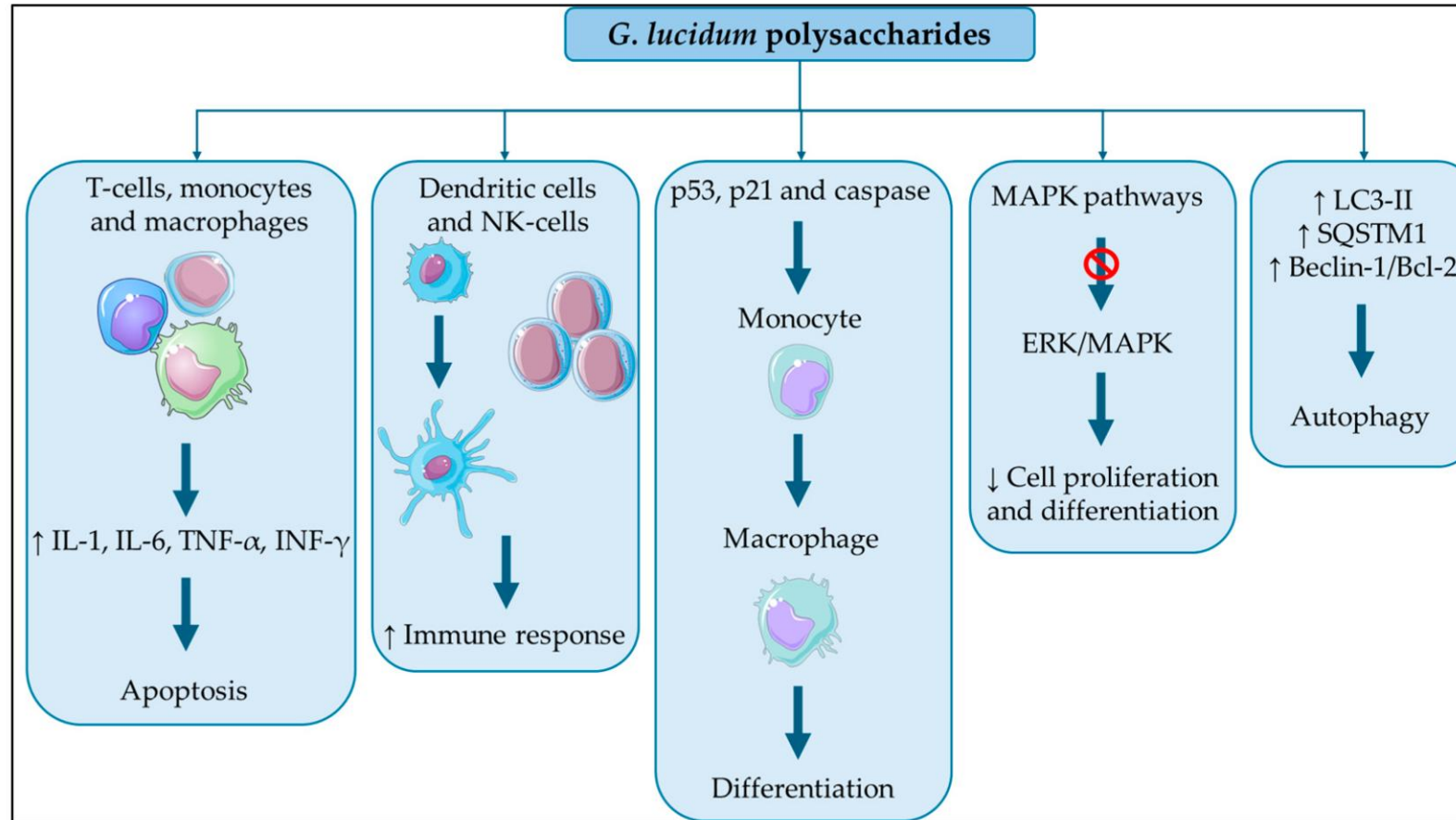
Anti-allergic

Anti-inflammatory activities.

Zhang X. et al. Network pharmacology based virtual screening of active constituents of *Prunella vulgaris* L. and the molecular mechanism against breast cancer. *Sci Rep.* 2020 Sep 25;10(1):15730.

Mir RH. Et al. *Prunella vulgaris* L: Critical Pharmacological, Expository Traditional Uses and Extensive Phytochemistry: A Review. *Curr Drug Discov Technol.* 2022;19(1):e140122191102.

Reishi(*Ganoderma lucidum*)



Samento (Cat's Claw: Uncaria Tomentosa Bark extract)

Anti-microbial:

- Borrelia: round(cyst) stationary forms and active spirochetes stronger with Banderol

Immune Modulator

Anti-inflammatory (Study with improvement in Rheumatoid Arthritis)

Anti-oxidant

Blood glucose regulation

Blood pressure regulation

Neurocognitive support

Products: Individual (1 oz. and 2 oz sizes)

- GlucoMedix: Samento and Stevia, ImmuneMedix
- MoodMedix: Samento and Turmeric (Avea), RelaxMedix: Samento and Valerian (Amantilla)
- VitalMedix: Samento and Moringa (source of vitamins, minerals, iron, protein)
- NutraBRL: Samento, Banderol, Stevia





How ImmuneMedix™ Ingredients Support Key Immune Pathways and Functions

Ingredient	Innate Immunity					Adaptive Immunity				
	NK cells	Neutrophils	Macrophages	Dendritic Cells	T Cell Lymphocytes	B Cell Lymphocytes	Lower VEGF	Increase Apoptosis	Support Inflammatory Response	
Astragalus Root	X		X	X	X			X	X	
Chinese Skullcap Root							X	X	X	
Cat's Claw Bark		X	X		X			X	X	
Cordyceps Mushroom	X		X	X					X	
Goji Berry	X		X	X	X				X	
Ligustrum Fruit			X		X	X		X	X	
Noni Fruit Extract	X				X	X	X	X	X	
Poria Sclerotium Extract	X		X	X					X	
Prunella Spike	X		X	X					X	
Reishi Mushroom	X		X	X	X			X	X	
White Peony Root		X		X				X	X	

Scientific Support Key

X	Supported by peer-reviewed and published scientific research and clinical evidence of efficacy (journal references available upon request)
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Innate Immunity

NK (Natural Killer cells)	Identify and kill abnormal cells directly by releasing substances to poke holes in their cell membrane, resulting in cell death (apoptosis).
Neutrophils	Kill abnormal cells by releasing free radicals and other substances to trigger cell death.
Macrophages	Surround and digest the dead or dying cells
Dendritic cells	Dendritic cells process the remains of the abnormal cell, presenting antigen fragments to the T cells

Adaptive Immunity

T cell Lymphocytes	Help destroy abnormal cells
B Cell lymphocytes	Release antibody proteins as markers to increase immune response
VEGF	Vascular endothelial growth factor supports the formation of new blood vessels.
Apoptosis	Natural process in which damaged, abnormal, or unneeded cells are destroyed

Products in Development

MCAS herbal tincture

Liquid Pediatric MVI- designed with needs of ASD, ADHD, chronic disease in mind- good form for adults- supportive calming and anti-inflammatory herbs included

Pediatric Line

Japanese Knotweed

References

Allen-Hall, L., Cano, P., Arnason, J. T., Rojas, R., Lock, O., & Lafrenie, R. M. (2007). Treatment of THP-1 cells with *Uncaria tomentosa* extracts differentially regulates the expression of IL-1 β and TNF- α . *Journal of ethnopharmacology*, 109(2), 312–317.

Araújo, L. C. C., Furig, I. C., Murata, G. M., Donato, J., Bordin, S., Curi, R., & Carvalho, C. R. O. (2017). The insulin resistance induced by obesity is reversed by *Uncaria tomentosa* through modulation of inflammatory pathway in the liver of mice. *Journal of diabetes and medicine*, 8(10).

Araújo, L., Feitosa, K. B., Murata, G. M., Furigo, I. C., Teixeira, S. A., Lucena, C. F., Ribeiro, L. M., Muscará, M. N., Costa, S., Donato, J., Jr, Bordin, S., Curi, R., & Carvalho, C. (2018). *Uncaria tomentosa* improves insulin sensitivity and inflammation in experimental NAFLD. *Scientific reports*, 8(1), 11013.

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