



PART 1.  
PHYTOBOX  
STUDIES  
TRADEMARK



## PhytoBox 1 – Support for Borrelia and intracellular infective pathogens

| INGREDIENTS (4 CAPSULES):    | DAILY DOSAGE  | %RQ* |
|------------------------------|---------------|------|
| Monolaurine.....             | 900 mg .....  | -    |
| Baikal skullcap extract..... | 1000 mg ..... | -    |

\*RQ = Reference quantity for daily intake

### Studies on Baikal skullcap (*Scutellaria baicalensis*):

- » Scutellaria baicalensis Inhibits Coxsackievirus B3-Induced Myocarditis Via AKT and p38 Pathways  
<https://pubmed.ncbi.nlm.nih.gov/31370111/>
- » Antiviral Activity of Oroxylin A against Coxsackievirus B3 Alleviates Virus-Induced Acute Pancreatic Damage in Mice  
<https://pubmed.ncbi.nlm.nih.gov/27195463/>
- » Potential therapeutic and pharmacological effects of Wogonin: an updated review  
<https://pubmed.ncbi.nlm.nih.gov/33165817/>
- » Baicalin ameliorates *Mycoplasma gallisepticum*-induced lung inflammation in chicken by inhibiting TLR6-mediated NF-κB signalling  
<https://pubmed.ncbi.nlm.nih.gov/33252265/>
- » Effect of Baicalin on Bacterial Secondary Infection and Inflammation Caused by H9N2 AIY Infection in Chickens  
<https://pubmed.ncbi.nlm.nih.gov/33294434/>
- » Baicalin Liposome Alleviates Lipopolysaccharide-Induced Acute Lung Injury in Mice via Inhibiting TLR4/JNK/ERK/NF- κ B Pathway  
<https://pubmed.ncbi.nlm.nih.gov/33223957/>
- » Neuroprotective Effects of Baicalein, Wogonin, and Oroxylin A on Amyloid Beta-Induced Toxicity via NF-κB/MAPK Pathway Modulation  
<https://pubmed.ncbi.nlm.nih.gov/33147823/>
- » Scutellaria baicalensis Georgi. (Lamiaceae): a review of its traditional uses, botany, phytochemistry, pharmacology and toxicology  
<https://pubmed.ncbi.nlm.nih.gov/33294434/>
- » The anti-rotavirus effect of baicalin via the gluconeogenesis-related p-JNK-PDK1-AKT-SIK2 signaling pathway  
<https://pubmed.ncbi.nlm.nih.gov/33567320/>

### Studies on Monolaurine:

- » In vitro activity of lauric acid or myristylamine in combination with six antimicrobial agents against methicillin-resistant *Staphylococcus aureus* (MRSA)  
<https://pubmed.ncbi.nlm.nih.gov/16318911/>
- » Glycerol monolaurate inhibits the effects of Gram-positive select agents on eukaryotic cells  
<https://pubmed.ncbi.nlm.nih.gov/16475828/>
- » In vitro inactivation of *Chlamydia trachomatis* by fatty acids and monoglycerides  
<https://pubmed.ncbi.nlm.nih.gov/9736551/>
- » Glycerol monolaurate antibacterial activity in broth and biofilm cultures  
<https://pubmed.ncbi.nlm.nih.gov/22808139/>
- » Inhibition of Bacterial Spore Growth by Fatty Acids and Their Sodium Salts  
<https://pubmed.ncbi.nlm.nih.gov/31084102/>
- » Novel antibacterial activity of monolaurin compared with conventional antibiotics against organisms from skin infections: an *in vitro* study  
<https://pubmed.ncbi.nlm.nih.gov/17966176/>
- » In vitro evaluation of antibacterial activity of phytochemicals and micronutrients against *Borrelia burgdorferi* and *Borrelia garinii*  
<https://pubmed.ncbi.nlm.nih.gov/26457476/>
- » Antibacterial Free Fatty Acids and Monoglycerides: Biological Activities, Experimental Testing, and Therapeutic Applications  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5979495/>
- » Investigation of the selective bactericidal effect of several decontaminating solutions on bacterial biofilms including useful, spoilage and/or pathogenic bacteria  
<https://www.sciencedirect.com/science/article/abs/pii/S0740002003000510>
- » Inactivation of enveloped viruses in human bodily fluids by purified lipids  
<https://pubmed.ncbi.nlm.nih.gov/8030973/>

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- » Antibacterial study of the medium chain fatty acids and their 1-monoglycerides:  
individual effects and synergistic relationships  
<https://pubmed.ncbi.nlm.nih.gov/19469285/>
- » In vitro effects of monolaurin compounds on enveloped rna and dna viruses  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7166675/>
- » Virucidal activities of medium- and long-chain fatty alcohols, fatty acids and monoglycerides against herpes simplex virus types 1 and 2: comparison at different pH levels  
<https://pubmed.ncbi.nlm.nih.gov/15676016/>
- » Inactivation of enveloped viruses and killing of cells by fatty acids and monoglycerides  
<https://pubmed.ncbi.nlm.nih.gov/3032090/>
- » Inactivation of visna virus and other enveloped viruses by free fatty acids and monoglycerides  
<https://pubmed.ncbi.nlm.nih.gov/8030974/>
- » Fatty acids and derivatives as antimicrobial agents  
<https://pubmed.ncbi.nlm.nih.gov/4670656/>
- » In Vitro Antimicrobial Activities of Organic Acids and Their Derivatives on Several Species of Gram-Negative and Gram-Positive Bacteria  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6832434/>
- » In vitro killing of Candida albicans by fatty acids and monoglycerides  
<https://pubmed.ncbi.nlm.nih.gov/11600381/>
- » Bactericidal effects of fatty acids and monoglycerides on Helicobacter pylori  
<https://pubmed.ncbi.nlm.nih.gov/12385681/>
- » Inhibitory activity of monoacylglycerols on biofilm formation  
<https://pubmed.ncbi.nlm.nih.gov/27652099/>
- » In Vivo Antifungal Activity of Monolaurin against Candida albicans Biofilms  
<https://pubmed.ncbi.nlm.nih.gov/30068882/>
- » The Clinical Use of Monolaurin as a Dietary Supplement: A Review of the Literature  
<https://pubmed.ncbi.nlm.nih.gov/32952476/>
- » The 1-monolaurin inhibit growth and eradicate the biofilm formed by clinical isolates of Staphylococcus epidermidis  
<https://pubmed.ncbi.nlm.nih.gov/31890012/>
- » Bactericidal effect of glycerol monolaurate complex disinfectants on Salmonella of chicken  
<https://pubmed.ncbi.nlm.nih.gov/33294434/>

## PhytoBox 2 – Support for neuroborreliosis and neuropathic dysfunctions

| INGREDIENTS (2 CAPSULES):                | DAILY DOSAGE   | %RQ* |
|--|----------------|------|
| Andrographis paniculata extract 4:1..... | 400 mg .....   | -    |
| Uncaria rhynchophylla.....               | 320 mg .....   | -    |
| Thereof Ginsenosides .....               | 256 mg .....   | -    |
| Polygonum cuspidatum.....                | 168,4 mg ..... | -    |
| Thereof trans-Resveratrol.....           | 159,8 mg ..... | -    |
| Grapefruit seed extract .....            | 60 mg .....    | -    |
| Thereof Bioflavonoids.....               | 27 mg .....    | -    |

\*RQ = Reference quantity for daily intake

### Studies on Andrographis paniculata:

- » Andrographolide, an Anti-Inflammatory Multitarget Drug: All Roads Lead to Cellular Metabolism  
<https://pubmed.ncbi.nlm.nih.gov/33374961/>
- » Andrographis paniculata and Its Bioactive Diterpenoids Against Inflammation and Oxidative Stress in Keratinocytes  
<https://pubmed.ncbi.nlm.nih.gov/32560449/>
- » Polyphenolic-rich extracts of Andrographis paniculata mitigate hyperglycemia via attenuating β-cell dysfunction, pro-inflammatory cytokines and oxidative stress in alloxan-induced diabetic Wistar albino rat  
<https://pubmed.ncbi.nlm.nih.gov/33553038/>
- » Andrographis paniculata (Burm.f.) Nees and its major constituent andrographolide as potential antiviral agents  
<https://pubmed.ncbi.nlm.nih.gov/33610706/>
- » Effect of Andrographis paniculata leaves extract on neurobehavioral and biochemical indices in scopolamine-induced amnesic rats  
<https://pubmed.ncbi.nlm.nih.gov/32441354/>

### Studies on grapefruit - Citrus paradisi:

- » NQO1 mediates the anti-inflammatory effects of nootkatone in lipopolysaccharide-induced neuroinflammation by modulating the AMPK signaling pathway  
<https://pubmed.ncbi.nlm.nih.gov/33460769/>
- » Potentiating and synergistic effect of grapefruit juice on the antioxidant and anti-inflammatory activity of aripiprazole against hydrogen peroxide induced oxidative stress in mice  
<https://pubmed.ncbi.nlm.nih.gov/29566693/>

### Studies on Resveratrol:

- » Nanoparticles of resveratrol attenuates oxidative stress and inflammation after ischemic stroke in rats  
<https://pubmed.ncbi.nlm.nih.gov/33676175/>
- » Pterostilbene Improves Stress-Related Behaviors and Partially Reverses Underlying Neuroinflammatory and Hormonal Changes in Stress-Challenged Mice  
<https://pubmed.ncbi.nlm.nih.gov/33739881/>

### Studies on Uncaria rhynchophylla:

- » Isorhynchophylline Ameliorates Cerebral Ischemia/Reperfusion Injury by Inhibiting CX3CR1-Mediated Microglial Activation and Neuroinflammation  
<https://pubmed.ncbi.nlm.nih.gov/33643044/>
- » Protection by rhynchophylline against MPTP/MPP +-induced neurotoxicity via regulating PI3K/Akt pathway  
<https://pubmed.ncbi.nlm.nih.gov/33188898/>
- » Rhynchophylline attenuates migraine in trigeminal nucleus caudalis in nitroglycerin-induced rat model by inhibiting MAPK/NF-κB signaling  
<https://pubmed.ncbi.nlm.nih.gov/31420791/>

## PhytoBox 3 - Break down of pleomorphic forms and support of detoxification & purification

| INGREDIENTS (4 CAPSULES):         | DAILY DOSAGE  | %RQ* |
|-----------------------------------|---------------|------|
| Chlorella pyrenoides .....        | 800 mg .....  | -    |
| Stinging Nettle extract 10:1..... | 160 mg .....  | -    |
| Bilberry extract.....             | 160 mg .....  | -    |
| Thereof Anthocyanidins.....       | 40 mg .....   | -    |
| Cranberry extract .....           | 160 mg .....  | -    |
| Thereof Polyphenols.....          | 40 mg .....   | -    |
| Lingonberry fruit powder .....    | 160 mg .....  | -    |
| Artichoke extract 12:1.....       | 160 mg .....  | -    |
| Thereof Cynarin.....              | 4 mg .....    | -    |
| Sage leaf extract 4:1.....        | 100 mg .....  | -    |
| Wild garlic herb extract 4:1..... | 50 mg .....   | -    |
| Cistus incanus.....               | 50 mg .....   | -    |
| Thereof Polyphenols.....          | 32,4 mg ..... | -    |

\*RQ = Reference quantity for daily intake

### Studies on Chlorella pyrenoides:

- » Evaluation of antioxidant and anticancer activity of crude extract and different fractions of Chlorella vulgaris axenic culture grown under various concentrations of copper ions  
<https://pubmed.ncbi.nlm.nih.gov/33546663/>
- » Effect of Chlorella vulgaris on Liver Function Biomarkers: a Systematic Review and Meta-Analysis  
<https://pubmed.ncbi.nlm.nih.gov/33564655/>
- » Evaluation of the simultaneous effect of Chlorella vulgaris supplementation and high intensity interval training on resting levels of oxidative stress markers and aerobic fitness in overweight healthy men  
[https://www.researchgate.net/publication/337952135\\_Evaluation\\_of\\_the\\_simultaneous\\_effect\\_of\\_Chlorella\\_vulgaris\\_supplementation\\_and\\_high\\_intensity\\_interval\\_training\\_on\\_resting\\_levels\\_of\\_oxidative\\_stress\\_markers\\_and\\_aerobic\\_fitness\\_in\\_overweight\\_healthy](https://www.researchgate.net/publication/337952135_Evaluation_of_the_simultaneous_effect_of_Chlorella_vulgaris_supplementation_and_high_intensity_interval_training_on_resting_levels_of_oxidative_stress_markers_and_aerobic_fitness_in_overweight_healthy)
- » Physicochemical characterization and antioxidant effects of green microalga Chlorella pyrenoidosa polysaccharide by regulation of microRNAs and gut microbiota in *Caenorhabditis elegans*  
<https://pubmed.ncbi.nlm.nih.gov/33301848/>

### Studies on Stinging Nettle - *Urtica dioica*:

- » Metagenomic insights into the effects of *Urtica dioica* vegetable on the gut microbiota of C57BL/6J obese mice, particularly the composition of Clostridia  
<https://pubmed.ncbi.nlm.nih.gov/33545322/>
- » Ameliorative effect of cotreatment with the methanolic leaf extract of *Urtica dioica* on acute kidney injury induced by gentamicin in rats  
<https://pubmed.ncbi.nlm.nih.gov/32523882/>
- » *Urtica Dioica* Root Extract on Clinical and Biochemical Parameters in Patients with Benign Prostatic Hyperplasia, Randomized Controlled Trial  
<https://pubmed.ncbi.nlm.nih.gov/32981268/>
- » Screening of pharmacological uses of *Urtica dioica* and others benefits  
<https://pubmed.ncbi.nlm.nih.gov/31163183/>

### Studies on blueberries - *Vaccinium myrtillus*:

- » Whole Blueberry and Isolated Polyphenol-Rich Fractions Modulate Specific Gut Microbes in an In Vitro Colon Model and in a Pilot Study in Human Consumers  
<https://pubmed.ncbi.nlm.nih.gov/32932733/>
- » Bilberry anthocyanin extracts enhance anti-PD-L1 efficiency by modulating gut microbiota  
<https://pubmed.ncbi.nlm.nih.gov/32211663/>

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- » Stability and Antiglycoxidant Potential of Bilberry Anthocyanins in Simulated Gastrointestinal Tract Model  
<https://pubmed.ncbi.nlm.nih.gov/33228062/>
- » Blueberry Prevents the Bladder Dysfunction in Bladder Outlet Obstruction Rats by Attenuating Oxidative Stress and Suppressing Bladder Remodeling  
<https://pubmed.ncbi.nlm.nih.gov/32369959/>

### Studies on Cranberry - *Vaccinium macrocarpon*:

- » Cranberry Extract for Symptoms of Acute, Uncomplicated Urinary Tract Infection: A Systematic Review  
<https://pubmed.ncbi.nlm.nih.gov/33375566/>
- » Cranberry Powder Attenuates Benign Prostatic Hyperplasia in Rats  
<https://pubmed.ncbi.nlm.nih.gov/33136465/>
- » Efficacy of Daily Intake of Dried Cranberry 500 mg in Women with Overactive Bladder: A Randomized, Double-Blind, Placebo Controlled Study  
<https://pubmed.ncbi.nlm.nih.gov/32945735/>

### Studies on Lingonberry - *Vaccinium vitis idaea*:

- » Supplementing diet with Manitoba lingonberry juice reduces kidney ischemia-reperfusion injury  
<https://pubmed.ncbi.nlm.nih.gov/28074603/>
- » Phenolic compounds and antioxidant activity of lingonberry (*Vaccinium vitis-idaea* L.) leaf, stem and fruit at different harvest periods  
<https://pubmed.ncbi.nlm.nih.gov/29478554/>

### Studies on Artichoke - *Cynara scolymus*:

- » Bioaccessibility of Tudela artichoke (*Cynara scolymus* cv. Blanca de Tudela) (poly)phenols: the effects of heat treatment, simulated gastrointestinal digestion and human colonic microbiota  
<https://pubmed.ncbi.nlm.nih.gov/33537693/>
- » Study on literature of artichoke and properties of traditional Chinese medicine  
<https://pubmed.ncbi.nlm.nih.gov/32726065/>
- » Preventive effect of Artichoke (*Cynara scolymus* L.) in kidney dysfunction against high fat-diet induced obesity in rats  
<https://pubmed.ncbi.nlm.nih.gov/31855072/>
- » Effect of fosfomycin, Cynara scolymus extract, deoxynivalenol and their combinations on intestinal health of weaned piglets  
<https://pubmed.ncbi.nlm.nih.gov/31890916/>
- » Intestinal anti-inflammatory effects of artichoke pectin and modified pectin fractions in the dextran sulfate sodium model of mice colitis. Artificial neural network modelling of inflammatory markers  
<https://pubmed.ncbi.nlm.nih.gov/31781703/>

### Studies on Sage leafae - *Salvia officinalis*:

- » Anti-oxidant and hepatoprotective effects of *Salvia officinalis* essential oil against vanadium-induced oxidative stress and histological changes in the rat liver  
<https://pubmed.ncbi.nlm.nih.gov/33106906/>
- » The effect of common sage extracts on the intestinal microbiota in experimental infectious colitis  
<https://pubmed.ncbi.nlm.nih.gov/32535583/>
- » Current State of the Art on the Antioxidant Activity of Sage (*Salvia* spp.) and Its Bioactive Components  
<https://pubmed.ncbi.nlm.nih.gov/31975363/>
- » The protective effects of *Salvia officinalis* essential oil compared to simvastatin against hyperlipidemia, liver, and kidney injuries in mice submitted to a high-fat diet  
<https://pubmed.ncbi.nlm.nih.gov/32010989/>

### Studies on Wild garlic herb - *Allium ursinum*

- » Allium ursinum and Allium oschaninii against Klebsiella pneumoniae and Candida albicans Mono- and Polymicrobial Biofilms in In Vitro Static and Dynamic Models  
<https://pubmed.ncbi.nlm.nih.gov/32120894/>
- » Study on the antioxidant and antimicrobial activities of *Allium ursinum* L. pressurised-liquid extract  
<https://pubmed.ncbi.nlm.nih.gov/24895887/>

## PhytoBox 4 - Anti-inflammatory and pain relieving

| INGREDIENTS (4 CAPSULES):      | DAILY DOSAGE   | %RQ* |
|--------------------------------|----------------|------|
| OPC Grape seed extract.....    | 200 mg .....   | -    |
| Thereof Polyphenols.....       | 190 mg .....   | -    |
| Thereof OPC.....               | 100 mg .....   | -    |
| Curcuma Extract .....          | 200 mg .....   | -    |
| Thereof Curcuminoids.....      | 180 mg .....   | -    |
| Thereof Curcumin.....          | 140 mg .....   | -    |
| Rutin Powder.....              | 189,4 mg ..... | -    |
| Thereof Rutin.....             | 179,8 mg ..... | -    |
| Polygonum cuspidatum .....     | 147,4 mg ..... | -    |
| Thereof trans-Resveratrol..... | 140 mg .....   | -    |

\*RQ = Reference quantity for daily intake

### Studies on Resveratrol:

- » Resveratrol rescued the pain related hypersensitivity for Cntnap2-deficient mice  
<https://pubmed.ncbi.nlm.nih.gov/33137333/>
- » Resveratrol mediates mechanical allodynia through modulating inflammatory response via the TREM2-autophagy axis in SNI rat model  
<https://pubmed.ncbi.nlm.nih.gov/33081801/>
- » Anti-Inflammatory Action and Mechanisms of Resveratrol  
<https://pubmed.ncbi.nlm.nih.gov/3346247/>
- » Preparation of resveratrol dry suspension and its immunomodulatory and anti-inflammatory activity in mice  
<https://pubmed.ncbi.nlm.nih.gov/31847682/>
- » Resveratrol Confers Vascular Protection by Suppressing TLR4/Syk/NLRP3 Signaling in Oxidized Low-Density Lipoprotein-Activated Platelets  
<https://pubmed.ncbi.nlm.nih.gov/33728029/>
- » Pterostilbene Improves Stress-Related Behaviors and Partially Reverses Underlying Neuroinflammatory and Hormonal Changes in Stress-Challenged Mice  
<https://pubmed.ncbi.nlm.nih.gov/33739881/>
- » Resveratrol-enhanced SIRT1-mediated osteogenesis in porous endplates attenuates low back pain and anxiety behaviors  
<https://pubmed.ncbi.nlm.nih.gov/33583095/>

### Studies on Curcuma longa:

- » Efficacy of a Standardized Turmeric Extract Comprised of 70% Bisdemethoxy-Curcumin (REVERC3) Against LPS-Induced Inflammation in RAW264.7 Cells and Carrageenan-Induced Paw Edema  
<https://pubmed.ncbi.nlm.nih.gov/33737826/>
- » Anti-inflammatory and Antioxidant Activity of Nanoencapsulated Curcuminoids Extracted from Curcuma longa L. in a Model of Cutaneous Inflammation  
<https://pubmed.ncbi.nlm.nih.gov/33164160/>
- » Curcumin and its Multi-target Function Against Pain and Inflammation: An Update of Pre-clinical Data  
<https://pubmed.ncbi.nlm.nih.gov/32981501/>
- » Curcumin: an inflammasome silencer  
<https://pubmed.ncbi.nlm.nih.gov/324644325/>
- » Biochemistry, Safety, Pharmacological Activities, and Clinical Applications of Turmeric: A Mechanistic Review  
<https://pubmed.ncbi.nlm.nih.gov/32454872/>

### Studies on OPC Grape seed extract:

- » The suppression of IL-17 production from T cells by gallate-type procyanidin is mediated by selectively inhibiting cytokine production from dendritic cells  
<https://pubmed.ncbi.nlm.nih.gov/33556876/>
- » Evaluation of Anti-Inflammatory, Anti-Platelet and Anti-Oxidant Activity of Wine Extracts Prepared from Ten Different Grape Varieties  
<https://pubmed.ncbi.nlm.nih.gov/33143291/>

## PhytoBox 4

- » The Effect of Grape Products Containing Polyphenols on C-reactive protein Levels:  
A Systematic Review and Meta-analysis of Randomized Controlled Trials  
<https://pubmed.ncbi.nlm.nih.gov/32921322/>
- » Antioxidant, Anti-Inflammatory and Antiproliferative Effects of the Vitis vinifera L. var. Fetească Neagră and Pinot Noir Pomace Extracts  
<https://pubmed.ncbi.nlm.nih.gov/32719600/>
- » Red Grape Polyphenol Oral Administration Improves Immune Response in Women Affected by Nickel-Mediated Allergic Contact Dermatitis  
<https://pubmed.ncbi.nlm.nih.gov/32167433/>
- » Effect of grape polyphenols on selected inflammatory mediators: A systematic review and meta-analysis randomized clinical trials  
<https://pubmed.ncbi.nlm.nih.gov/32327953/>
- » Phenolic profiles and anti-inflammatory activities of sixteen table grape (Vitis vinifera L.) varieties  
<https://pubmed.ncbi.nlm.nih.gov/30778463/>

### Studies on Rutin (*Styphnolobium japonicum*):

- » Troxerutin suppresses the inflammatory response in advanced glycation end-product-administered chondrocytes and attenuates mouse osteoarthritis development  
<https://pubmed.ncbi.nlm.nih.gov/31359010/>
- » Sophoricoside isolated from Sophora japonica ameliorates contact dermatitis by inhibiting NF-κB signaling in B cells  
<https://pubmed.ncbi.nlm.nih.gov/23415872/>
- » Sophoricoside from *Styphnolobium japonicum* improves experimental atopic dermatitis in mice  
<https://pubmed.ncbi.nlm.nih.gov/33545490/>

## PhytoBox 5 - Synbiotic with prebiotic

| INGREDIENTS (4 CAPSULES):   | DAILY DOSAGE         | %RQ* |
|-----------------------------|----------------------|------|
| Acacia fibre .....          | 1.400 mg .....       |      |
| thereof dietary fibre ..... | 1.260 mg .....       |      |
| Bacterial cultures .....    | ca. 1,2* 10^10 KBE** |      |
| Biotin .....                | 50 µg .....          | 100  |
| Niacin .....                | 16 mg .....          | 100  |
| Riboflavin .....            | 1,4 mg .....         | 100  |

\*RQ = Reference quantity for daily intake

\*\*KBE = colony forming units

### Studies on Resveratrol:

» Resveratrol rescued the pain related hypersensitivity for Cntnap2-deficient mice

<https://pubmed.ncbi.nlm.nih.gov/33137333/>

## PhytoBox 6 - Support in chronic opportunistic virus infection, especially herpes veriae

| INGREDIENTS (3 CAPSULES):     | DAILY DOSAGE | %RQ* |
|-------------------------------|--------------|------|
| Zinc .....                    | 10mg .....   | 100% |
| Triphala extract .....        | 600mg .....  | -    |
| thereof tannins .....         | 240mg .....  | -    |
| Propolis extract.....         | 120mg .....  | -    |
| thereof flavonoids .....      | 17mg .....   | -    |
| Lemon balm extract.....       | 100mg .....  | -    |
| thereof rosmarinic acid ..... | 3mg .....    | -    |
| Pomegranate extract .....     | 100mg .....  | -    |
| thereof ellagic acid.....     | 40mg .....   | -    |
| Thyme extract .....           | 80mg .....   | -    |
| thereof essential oil .....   | 1,6mg .....  | -    |
| Ginger extract .....          | 50mg .....   | -    |

\*RQ = Reference quantity for daily intake

### Studies on Ginger:

- » Reduktion Expression: TNF- $\alpha$ , IL-6, c-fos, c-jun, Bax, Caspase-3, TLR4, NF- $\kappa$ B, p38, p-p38, ERK1/2, p-ERK1/2, JNK, and p-JNK, and increased Bcl-2 protein expression.  
[https://pubmed.ncbi.nlm.nih.gov/32438504/?from\\_single\\_result=32438504%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/32438504/?from_single_result=32438504%5Bpmid%5D)
- » Ätherische Öle des Ingwer weisen hemmende Wirkung auf HSV Type 2 auf  
<https://www.sciencedirect.com/science/article/abs/pii/S0944711307002206>

### Studies on Triphala:

- » Entzündungsmediatoren Level im serum (TNF- $\alpha$  ~75.5%, IL-1 $\beta$  ~99%, VEGF ~75.2%, MCP-1 ~76.4%, and PGE2 ~69.9%) wurden unterdrückt  
[https://pubmed.ncbi.nlm.nih.gov/25289531/?from\\_single\\_result=25289531%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/25289531/?from_single_result=25289531%5Bpmid%5D)

### Studies on Terminalia chebula:

- » Hemmung der Überproduktion von NO, iNOS, TNF- $\alpha$ , and IL-6 in Makrophagen  
[https://pubmed.ncbi.nlm.nih.gov/25587343/?from\\_single\\_result=25587343%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/25587343/?from_single_result=25587343%5Bpmid%5D)
- » Hemmung HSV Typ 1 Eintritt + Ausbreitung  
<https://pubmed.ncbi.nlm.nih.gov/21307190/>

### Studies on Phyllanthus emblica:

- » In vitro Anti-herpes simplex virus Aktivität von 1,2,4,6-tetra-O-galloyl- $\beta$ -D-glucose (Phyllanthus emblica)  
<https://pubmed.ncbi.nlm.nih.gov/21213355/>
- » Anti-coxsackie virus B3 norsesquiterpenoide aus der Wurzel von Phyllanthus emblica  
<https://pubmed.ncbi.nlm.nih.gov/19374435/>

### Studies on Pomegranate:

- » Signifikante Reduktion der Expression von proinflammatorischer Zytokine interleukin (IL)-1 $\beta$ , tumor necrosis factor (TNF)- $\alpha$ , and interferon (IFN)- $\gamma$   
[https://pubmed.ncbi.nlm.nih.gov/27422638/?from\\_single\\_result=27422638%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/27422638/?from_single_result=27422638%5Bpmid%5D)
- » MPO Aktivität und TNF- $\alpha$  levels wurden signifikant reduziert  
[https://pubmed.ncbi.nlm.nih.gov/22677088/?from\\_single\\_result=22677088%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/22677088/?from_single_result=22677088%5Bpmid%5D)
- » Antivirale Aktivität von Punicalagin bei Humanen Enterovirus 71 in vitro und in vivo  
<https://pubmed.ncbi.nlm.nih.gov/23146421/>

# PhytoBox 6

## Studies on Thyme:

- » Hemmung TNF-alpha  
[https://pubmed.ncbi.nlm.nih.gov/29019091/?from\\_single\\_result=29019091%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/29019091/?from_single_result=29019091%5Bpmid%5D)
- » Review zu antioxidativen, antiinflammatorischen und antiviralen Eigenschaften von Thymian  
[https://www.researchgate.net/profile/Prasanth\\_Reddy/publication/306885675\\_Review\\_on\\_Thymus\\_vulgaris\\_Traditional\\_Uses\\_and\\_Pharmacological\\_Properties/links/5858b62108ae64cb3d47efc6/Review-on-Thymus-vulgaris-Traditional-Uses-and-Pharmacological-Properties.pdf](https://www.researchgate.net/profile/Prasanth_Reddy/publication/306885675_Review_on_Thymus_vulgaris_Traditional_Uses_and_Pharmacological_Properties/links/5858b62108ae64cb3d47efc6/Review-on-Thymus-vulgaris-Traditional-Uses-and-Pharmacological-Properties.pdf)

## Studies on Zinc:

- » Reduktion von oxidativem Stress und Erzeugung von inflammatorischen Zytokinen wie TNF- $\alpha$  und IL-1 $\beta$   
[https://pubmed.ncbi.nlm.nih.gov/19710611/?from\\_single\\_result=19710611%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/19710611/?from_single_result=19710611%5Bpmid%5D)
- » Erzeugung von tumor necrosis factor  $\alpha$  und oxidative stress markers signifikant niedriger  
<https://academic.oup.com/ajcn/article/85/3/837/4633003>
- » Antivirale Eigenschaften von Zink  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6628855/>

## Studies on Propolis:

- » Antivirale Aktivität von Hatay Propolis gegen Replikation von Herpes Simplex Virus Typ 1 und Typ 2  
<https://pubmed.ncbi.nlm.nih.gov/26856414/>
- » Chemische Zusammensetzung von Propolis Extract ACF® und Aktivität gegen Herpes simplex virus  
<https://pubmed.ncbi.nlm.nih.gov/25022206/>
- » Vergleich antiviraler Wirkung von Olivenblatt Extrakt und Propolis mit Acyclovir auf Herpes Simplex Virus Typ 1  
<https://pubmed.ncbi.nlm.nih.gov/32050880/>
- » Immunmodulierendes Potential von Propolis  
<https://pubmed.ncbi.nlm.nih.gov/30697106/>
- » Antivirale (Enteroviren) Wirkung von brasilian. roten und grünen Propolis Extrakt  
<https://link.springer.com/article/10.1007/s11356-019-07458-z>

## Studies on Lemon balm :

- » Hemmende Wirkung von Melissa officinalis L. Extract auf Herpes simplex virus Typ 2 Replikation  
<https://pubmed.ncbi.nlm.nih.gov/19023806/>
- » Melisse und enthaltene Rosmarinsäure zeigen anti-EV71-virus Eigenschaften  
<https://www.nature.com/articles/s41598-017-12388-2>

## PhytoBox 7 - Support in cytokine storms

### INGREDIENTS (4 CAPSULES):

|                            | DAILY DOSAGE | %RQ* |
|----------------------------|--------------|------|
| Licorice root extract..... | 880mg .....  | -    |
| thereof glycyrrhizin.....  | 26mg .....   | -    |
| Shiitake extract.....      | 650mg .....  | -    |
| Black cumin extract.....   | 600mg .....  | -    |
| Astaxanthin.....           | 4mg .....    | -    |

\*RQ = Reference quantity for daily intake

### Studies on Astaxanthin:

- » Zytokinsturm Linderung  
[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3579738](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3579738)

### Studies on Licorice root:

- » Reduktion Chemokin Produktion  
<https://www.sciencedirect.com/science/article/pii/S1567576904002498>
- » Hemmung TNF alpha, MME, PGE  
[https://pubmed.ncbi.nlm.nih.gov/27650551/?from\\_single\\_result=27650551%5Bpmid%5D&expanded\\_search\\_query=27650551%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/27650551/?from_single_result=27650551%5Bpmid%5D&expanded_search_query=27650551%5Bpmid%5D)
- » Hemmung IL-1β  
<http://inforesources.com/phytopharmacology/files/pp4v1i13.pdf>

### Studies on Shiitake:

- » Senkung Cytokine  
[https://pubmed.ncbi.nlm.nih.gov/32413619/?from\\_single\\_result=32413619%5Bpmid%5D&expanded\\_search\\_query=32413619%5Bpmid%5D](https://pubmed.ncbi.nlm.nih.gov/32413619/?from_single_result=32413619%5Bpmid%5D&expanded_search_query=32413619%5Bpmid%5D)

### Studies on Black cumin:

- » Modulierung der NF-κB Expression bei Sepsis  
<https://onlinelibrary.wiley.com/doi/full/10.1002/ptr.6793>
- » Immunmodulierende und antiinflammatorische Wirkung (TNF Alpha Senkung)  
<https://pubmed.ncbi.nlm.nih.gov/29437018/>



Studies

NR. 08

## PhytoBox 8 - Support in bartonella infection

Expected to be available from October 2021!

## PhytoBox 9- Support in Chlamydia Pneumoniae infection

| INGREDIENTS (3 CAPSULES):      | DAILY DOSAGE | %RQ* |
|--------------------------------|--------------|------|
| Vitamin C .....                | 200mg .....  | 250  |
| Nasturtium extract.....        | 500mg .....  | -    |
| Horseradish root extract.....  | 500mg .....  | -    |
| Chinese Lime Tree Extract..... | 300mg .....  | -    |
| White mustard extract.....     | 120mg .....  | -    |
| of which Sinalbin.....         | 7,2mg .....  | -    |
| Barberry extract.....          | 85mg .....   | -    |

\*RQ = Reference quantity for daily intake

### Studies on Nasturtium - *Tropaeolum majus*:

- » Nasturtium (Indian cress, *Tropaeolum majus nanum*) dually blocks the COX and LOX pathway in primary human immune cells  
<https://pubmed.ncbi.nlm.nih.gov/27161402/>

### Studies on Horseradish root - *Armoracia rusticana*:

- » Thiohydantoin and Hydantoin Derivatives from the Roots of *Armoracia rusticana* and Their Neurotrophic and Anti-neuroinflammatory Activities  
<https://pubmed.ncbi.nlm.nih.gov/31625742/>
- » The antioxidant power of horseradish, *Armoracia rusticana*, underlies antimicrobial and antiradical effects, exerted in vitro  
<https://pubmed.ncbi.nlm.nih.gov/30461310/>

### Studies on White mustard - *Sinapis alba L.*:

- » Mustard seed (*Sinapis Alba* Linn) attenuates imiquimod-induced psoriasisiform inflammation of BALB/c mice  
<https://pubmed.ncbi.nlm.nih.gov/23682616/>
- » Growth-inhibiting activities of phenethyl isothiocyanate and its derivatives against intestinal bacteria  
<https://pubmed.ncbi.nlm.nih.gov/19799675/>

### Studies on Chinese Lime Tree - *Schisandra chinensis*:

- » Antifatigue Activity of Glycoprotein from *Schisandra chinensis* Functions by Reducing Oxidative Stress  
<https://pubmed.ncbi.nlm.nih.gov/32802125/>
- » Dibenzocyclooctadiene lignans from *Schisandra* spp. selectively inhibit the growth of the intracellular bacteria *Chlamydia pneumoniae* and *Chlamydia trachomatis*  
<https://pubmed.ncbi.nlm.nih.gov/25944533/>

### Studies on Barberry - *Berberis vulgaris*:

- » Berberine inhibits *Chlamydia pneumoniae* infection-induced vascular smooth muscle cell migration through downregulating MMP3 and MMP9 via PI3K  
<https://www.sciencedirect.com/science/article/abs/pii/S0014299915001582>
- » Anti-Inflammatory and Immunomodulatory Effects of Barberry ( *Berberis vulgaris*) and Its Main Compounds  
<https://pubmed.ncbi.nlm.nih.gov/31827685/>
- » Antifungal, Antileishmanial, and Cytotoxicity Activities of Various Extracts of *Berberis vulgaris* (Berberidaceae) and Its Active Principle Berberine  
<https://pubmed.ncbi.nlm.nih.gov/24977052/>

## PhytoBox 10 – NK Cell support

| INGREDIENTS (4 CAPSULES):  | DAILY DOSAGE | %RQ* |
|----------------------------|--------------|------|
| Vitamin C .....            | 40 mg .....  | 50   |
| Reishi Extract.....        | 600 mg ..... | -    |
| Shiitake extract.....      | 600 mg ..... | -    |
| Spirulina Powder .....     | 350 mg ..... | -    |
| Cordyceps Extract .....    | 300 mg ..... | -    |
| Maitake extract .....      | 300 mg ..... | -    |
| Ginseng root extract ..... | 35 mg .....  | -    |
| thereof ginsenosides ..... | 2,8 mg ..... | -    |

\*RQ = Reference quantity for daily intake

### Studies on Cordyceps (*Cordyceps sinensis*):

- » Anti-Inflammatory Effects of a *Cordyceps sinensis* Mycelium Culture Extract (Cs-4) on Rodent Models of Allergic Rhinitis and Asthma  
<https://pubmed.ncbi.nlm.nih.gov/32899766/>
- » Anti-inflammation activity of exopolysaccharides produced by a medicinal fungus *Cordyceps sinensis* Cs-HK1 in cell and animal models  
<https://pubmed.ncbi.nlm.nih.gov/32035153/>
- » Immunomodulatory effects of a mycelium extract of *Cordyceps* (*Paecilomyces hepiali*; CBG-CS-2): a randomized and double-blind clinical trial  
<https://pubmed.ncbi.nlm.nih.gov/30925876/>

### Studies on Maitake (*Grifola frondosa*)

- » A (1→6)-Branched (1→4)- $\beta$ -d-Glucan from *Grifola frondosa* Inhibits Lipopolysaccharide-Induced Cytokine Production in RAW264.7 Macrophages by Binding to TLR2 Rather than Dectin-1 or CR3 Receptors  
<https://pubmed.ncbi.nlm.nih.gov/31967822/>
- » Meta-analysis on effect of *Grifola frondosa* polysaccharide in regulating in vivo immunoregulatory function on animal disease models  
<https://pubmed.ncbi.nlm.nih.gov/32237355/>
- » Water-soluble polysaccharides from *Grifola Frondosa* fruiting bodies protect against immunosuppression in cyclophosphamide-induced mice via JAK2/STAT3/SOCS signal transduction pathways  
<https://pubmed.ncbi.nlm.nih.gov/31355400/>

### Studies on Reishi (*Ganoderma lucidum*):

- » Anti-inflammatory effects of *Ganoderma lucidum* sterols via attenuation of the p38 MAPK and NF- $\kappa$ B pathways in LPS-induced RAW 264.7 macrophages  
<https://pubmed.ncbi.nlm.nih.gov/33631283/>
- » *Ganoderma lucidum* Rhodiola compound preparation prevent D-galactose-induced immune impairment and oxidative stress in aging rat model  
<https://pubmed.ncbi.nlm.nih.gov/33159105/>
- » Surface-Engineered Cubosomes Serve as a Novel Vaccine Adjuvant to Modulate Innate Immunity and Improve Adaptive Immunity in vivo  
<https://pubmed.ncbi.nlm.nih.gov/33177820/>

### Studies on Shiitake (*Lentinus edodes*):

- »  $\beta$ -Glucan extracts from the same edible shiitake mushroom *Lentinus edodes* produce differential in-vitro immunomodulatory and pulmonary cytoprotective effects - Implications for coronavirus disease (COVID-19) immunotherapies  
<https://pubmed.ncbi.nlm.nih.gov/32413619/>
- » The Effects of AHCC®, a Standardized Extract of Cultured *Lentinula edodes* Mycelia, on Natural Killer and T Cells in Health and Disease: Reviews on Human and Animal Studies  
<https://pubmed.ncbi.nlm.nih.gov/31930148/>

# PhytoBox 10

## Studies on Ginseng root:

- » Immuno-enhancement effects of Korean Red Ginseng in healthy adults: a randomized, double-blind, placebo-controlled trial  
<https://pubmed.ncbi.nlm.nih.gov/33437171/>
- » Ginseng, the „Immunity Boost“: The Effects of Panax ginseng on Immune System  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3659612/>
- » Protective Effect of Panax notoginseng Root Water Extract against Influenza A Virus Infection by Enhancing Antiviral Interferon-Mediated Immune Responses and Natural Killer Cell Activity  
<https://pubmed.ncbi.nlm.nih.gov/29181006/>

## Studies on Spirulina:

- » Enhancement of natural killer cell activity in healthy subjects by Immulina®, a Spirulina extract enriched for Braun-type lipoproteins  
<https://pubmed.ncbi.nlm.nih.gov/20560112/>
- » Immunostimulatory Effects of Polysaccharides from Spirulina platensis In Vivo and Vitro and Their Activation Mechanism on RAW246.7 Macrophages  
<https://pubmed.ncbi.nlm.nih.gov/33126624/>
- » Enhancement of antitumor natural killer cell activation by orally administered Spirulina extract in mice  
<https://pubmed.ncbi.nlm.nih.gov/19432881/>

## PhytoBox 11 – Support in Coxsackie and Echoviruses infection

| INGREDIENTS (3 CAPSULES):                  | DAILY DOSAGE  | %RQ* |
|--|---------------|------|
| Elderflower extract .....                  | 500 mg .....  | -    |
| thereof Rutin .....                        | 25 mg .....   | -    |
| Rhodiola rosea extract.....                | 250 mg .....  | -    |
| thereof Salidroside.....                   | 7,5 mg .....  | -    |
| Astragalus membranaceus root extractt..... | 250 mg .....  | -    |
| Oregano extract .....                      | 180 mg .....  | -    |
| thereof Rosmarinic acid.....               | 3,6 mg .....  | -    |
| Barberry extract.....                      | 150 mg .....  | -    |
| Mint, Tibetan .....                        | 150 mg .....  | -    |
| Ginkgo biloba.....                         | 80 mg .....   | -    |
| thereof Flavone glycoside .....            | 19 mg .....   | -    |
| thereof ginkgolides.....                   | 4,8 mg .....  | -    |
| St. John's wort extract.....               | 50 mg .....   | -    |
| thereof Hypericin .....                    | 0,15 mg ..... | -    |

\*RQ = Reference quantity for daily intake

### Studies on Black elderberry (*Sambucus nigra*):

- » Elderberry for prevention and treatment of viral respiratory illnesses: a systematic review  
<https://pubmed.ncbi.nlm.nih.gov/33827515/>
- » Further Evidence of Possible Therapeutic Uses of *Sambucus nigra* L. Extracts by the Assessment of the In Vitro and In Vivo Anti-Inflammatory Properties of Its PLGA and PCL-Based Nanoformulations  
<https://pubmed.ncbi.nlm.nih.gov/33291738/>
- » A systematic review on the sambuci fructus effect and efficacy profiles  
<https://pubmed.ncbi.nlm.nih.gov/19548290/>
- » Antiviral potential of medicinal plants against HIV, HSV, influenza, hepatitis, and coxsackievirus: A systematic review  
<https://pubmed.ncbi.nlm.nih.gov/29356205/>

### Studies on St. John's wort (*Hypericum connatum*):

- » Hypericum perforatum extract and hyperforin inhibit the growth of neurotropic parasite *Toxoplasma gondii* and infection-induced inflammatory responses of glial cells in vitro  
<https://pubmed.ncbi.nlm.nih.gov/33129946/>
- » In Vitro Effects of St. John's Wort Extract Against Inflammatory and Oxidative Stress and in the Phagocytic and Migratory Activity of Mouse SIM-A9 Microglia  
<https://pubmed.ncbi.nlm.nih.gov/33628177/>
- » Effects of Hypericum perforatum (St John's wort) on the pharmacokinetics and pharmacodynamics of rivaroxaban in humans  
<https://pubmed.ncbi.nlm.nih.gov/32959922/>
- » Hypericin-glucamine antimicrobial photodynamic therapy in the progression of experimentally induced periodontal disease in rats  
<https://pubmed.ncbi.nlm.nih.gov/30399457/>
- » Antiviral potential of medicinal plants against HIV, HSV, influenza, hepatitis, and coxsackievirus: A systematic review  
<https://pubmed.ncbi.nlm.nih.gov/29356205/>

### Studies on Berberin:

- » Berberine Restricts Coxsackievirus B Type 3 Replication via Inhibition of c-Jun N-Terminal Kinase (JNK) and p38 MAPK Activation In Vitro  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5389531/>
- » Phyto-mediated synthesis of zinc oxide nanoparticles of *Berberis aristata*: Characterization, antioxidant activity and antibacterial activity with special reference to urinary tract pathogens  
<https://pubmed.ncbi.nlm.nih.gov/31146992/>

# PhytoBox 11

## Studies on Rose Root (*Rhodiola rosea*):

- » The in vitro and in vivo antiviral effects of salidroside from Rhodiola rosea L. against coxsackievirus B3  
<https://www.sciencedirect.com/science/article/abs/pii/S0944711308001487>
- » Rhodiola rosea extract inhibits the biofilm formation and the expression of virulence genes of cariogenic oral pathogen Streptococcus mutans  
<https://pubmed.ncbi.nlm.nih.gov/32474211/>
- » Immunomodulatory and Antiproliferative Properties of Rhodiola Species  
<https://pubmed.ncbi.nlm.nih.gov/27224273/>
- » The in vitro and in vivo antiviral effects of salidroside from Rhodiola rosea L. against coxsackievirus B3  
<https://pubmed.ncbi.nlm.nih.gov/18818064/>

## Studies on Astragalus membranaceus:

- » Total Astragalus saponins attenuates CVB3-induced viral myocarditis through inhibiting expression of tumor necrosis factor  $\alpha$  and Fas ligand  
<https://pubmed.ncbi.nlm.nih.gov/31555538/>
- » In vivo and in vitro antiviral activities of calycosin-7-O-beta-D-glucopyranoside against coxsackie virus B3  
<https://pubmed.ncbi.nlm.nih.gov/19122283/>

## Studies on Ginkgo biloba :

- » Ginkgo biloba extract may alleviate viral myocarditis by suppression of S100A4 and MMP-3  
<https://pubmed.ncbi.nlm.nih.gov/31359441/>

## Studies on Origanum vulgare:

- » Phenolic compounds from Origanum vulgare and their antioxidant and antiviral activities  
<https://pubmed.ncbi.nlm.nih.gov/24444941/>

## Studies on Mint, Tibetan (*Mentha haplocalyx*):

- » A Laboratory Evaluation of Medicinal Herbs Used in China for the Treatment of Hand, Foot, and Mouth Disease  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3608275/>