

Bio.Clear™ Virome

Botanical formula with vitamin C immune support

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Bio.Clear™ Virome has been formulated with the health of the human-viral interaction in mind. It contains botanicals and nutrients that have traditional and researched use for their role in immunity and helping to reduce pathogenic viral loads, with the same ecosystem supportive approach that we do here at Invivo.

Viruses are an important part of our microbial community, they are one of the most abundant entities on earth, but due to their tiny and changing nature, we have yet so much more to learn about them. The virus community (or virome) plays an important role, just like our microbiome, at the edges of managing our health, disease, and immunity.

Our immune system development thrives off healthy viral interactions, and equally, just like in the microbiome, there are always pathogenic strains that can cause dis-array in our complex systems.

Key botanicals

Andrographis paniculata

Andrographis is an indigenous herb to tropical regions, especially India and Sri Lanka, and it is widely cultivated in China, due to its medicinal uses. It has been used in Ayurvedic, Siddha and Traditional Chinese Medicine as well as integrated into many traditional medicine systems around the world, especially for the treatment of the common cold, fever, inflammation, and infections¹. In a review of 33 randomised clinical trials (N=7,175), Andrographis was found to improve cough, reduce sore throat and reduce overall symptoms and duration of acute upper respiratory tract symptoms². Results are also awaiting from a recent clinical trial run in the NHS in conjunction with Southampton university and funded by Pukka herbs, on the use of Andrographis to treat sore throats, coughs, and colds.

In a placebo controlled, randomised human clinical trial of patients with ulcerative colitis, Andrographis extract was given in doses of either 1,200mg daily or 1,800mg daily for 8 weeks. Patients were marked on their Mayo scores, and a significant number of patients in the 1,800mg group had a reduction in clinical symptoms and presentation³.

Echinacea Extract

Various Echinacea species (*E. angustifolia* and *E. purpurea*) have been used both in traditional and contemporary medicine as herb for immune support and reducing viral replication. An in vitro study in 2009 showed that Echinacea extract had the potential to impair influenza virus propagation, including seasonal strains and strains of highly pathogenic avian and swine influenza viruses⁴. A meta-analysis conducted in 2015 looked at the ability of Echinacea to reduce the risk of infection from upper respiratory tract infections. The analysis included six clinical studies with a total of 2,458 participants. The authors found that the use of Echinacea extracts was associated with reduced risk of recurrent respiratory infections (p<0.0001). Extracts were the most effective and increased dosing during acute infections further enhanced these effects. Three independent studies found that in individuals with a higher susceptibility, under stress or in a state of immunological weakness, Echinacea halved the risk of recurrent respiratory infections⁵. It can be used both prophylactically and acutely.

Olive Leaf Extract

Olive leaf extract contains the active ingredient oleuropein. It is a strong antioxidant, and has been researched in the use of high cholesterol, type 2 diabetes, cardiovascular disease, rheumatoid arthritis and Alzheimer's⁶⁻⁹. Alongside its uses as an antioxidant and anti-inflammatory, olive leaf extract has been shown in-vitro to be an effective anti-viral

against herpes, haemorrhagic septicaemia virus (VHSV), and retrovirus^{10,11}. It has also been shown to possess immunomodulatory and some anti-microbial activity⁹.

L-Lysine

Lysine is an essential amino acid, which as well as being involved in protein synthesis, is essential to the immune system. L-lysine is commonly used to prevent the replication of the herpes virus in cold sore outbreaks, reducing the severity of symptoms^{12,13}.

Vitamin C

Vitamin C supports multiple cellular functions of the innate and adaptive immune system, as well as supporting the epithelial barrier function against invasion. Vitamin C deficiency is associated with impaired immunity and a higher susceptibility to infections. Supplementation with vitamin C has been shown to prevent and improve symptoms of respiratory and systemic infections¹⁴.

Dosage

1-2 capsules daily for daily support
2-4 capsules daily for acute support

Nutritional Information		Per Dose
Actives	2 Capsules	NRV%*
Vitamin C (Ascorbic Acid)	200mg	250%
L-Lysine	400mg	†
Andrographis paniculata Extract (10% Andrographolide)	200mg	†
Echinacea purpurea Root Extract 4:1	200mg	†
Olive Leaf Extract 15:1 (6% Oleuropein)	200mg	†
*NRV = Nutrient Reference Value		
† = Nutrient Reference Value Not Established		
Other Ingredients: Anti-Caking Agents: Organic Nu-Mag Rice Concentrate (Rice Extract, Rice Hulls, Gum Arabic, Sunflower Oil), Capsule Shell: Hydroxypropyl Methylcellulose		

Warnings

Do not take Echinacea if you have known allergies to the Asteraceae family of plants – this botanical family includes plants such as chrysanthemums, daisies, marigolds or ragweed. The MHRA recommends children under 12 should not take Echinacea due to the very low risk of this allergic reaction. On the contrary, Echinacea has an extremely good safety record and most of the very small number of adverse events that have been reported, are associated with parallel use of other substances, generally over-the-counter medicines with a considerably less favourable toxicological profile.

Andrographis and Echinacea may cause a rash in a very small number in individuals, if this occurs discontinue use immediately. Not to be used in pregnancy and lactation.

References

- Hossain, M. S., Urbi, Z., Sule, A. & Rahman, K. M. H. Andrographis paniculata (Burm. f.) Wall. ex Nees: A review of ethnobotany, phytochemistry, and pharmacology. *Sci. World J.* **2014**, (2014).
- Hu, X. Y. *et al.* Correction: Andrographis paniculata (Chuān Xīn Lián) for symptomatic relief of acute respiratory tract infections in adults and children: A systematic review and metaanalysis(PLoS ONE (2018) 12:8 (e0181780) DOI: 10.1371/journal.pone.0181780). *PLoS One* **13**, 1–30 (2018).
- Sandborn, W. J. *et al.* Andrographis paniculata extract (HMPL-004) for active ulcerative colitis. *Am. J. Gastroenterol.* **108**, 90–98 (2013).
- Pleschka, S., Stein, M., Schoop, R. & Hudson, J. B. Anti-viral properties and mode of action of standardized Echinacea purpurea extract against highly pathogenic avian Influenza virus (H5N1, H7N7) and swine-origin H1N1 (S-OIV). *Virol. J.* **6**, 1–9 (2009).
- Schapowal, A., Klein, P. & Johnston, S. L. Echinacea Reduces the Risk of Recurrent Respiratory Tract Infections and Complications: A Meta-Analysis of Randomized Controlled Trials. *Adv. Ther.* **32**, 187–200 (2015).
- Olmez, E. *et al.* Olive leaf extract improves the atherogenic lipid profile in rats fed a high cholesterol diet. *Phyther. Res.* **29**, 1652–1657 (2015).
- Čabarkapa, A. *et al.* Dry Olive Leaf Extract in Combination with Methotrexate Reduces Cell Damage in Early Rheumatoid Arthritis Patients—A Pilot Study. *Phyther. Res.* **30**, 1615–1623 (2016).
- Kheirandish, F., Mosaffa, N., Tarahi, M. J. & Fallahi, S. Olive (Olea europaea) leaf extract alters the cytokine profile of Leishmania major-infected macrophages: New insight into the underlying mechanism. *Parasite Immunol.* **40**, 1–8 (2018).
- Hashmi, M. A., Khan, A., Hanif, M., Farooq, U. & Perveen, S. Traditional uses, phytochemistry, and pharmacology of olea europaea (olive). *Evidence-based Complement. Altern. Med.* **2015**, (2015).
- Lee-Huang, S. *et al.* Discovery of small-molecule HIV-1 fusion and integrase inhibitors oleuropein and hydroxytyrosol: Part I. Integrase inhibition. *Biochem. Biophys. Res. Commun.* **354**, 872–878 (2007).
- Micol, V. *et al.* The olive leaf extract exhibits antiviral activity against viral haemorrhagic septicaemia rhabdovirus (VHSV). *Antiviral Res.* **66**, 129–136 (2005).
- Venthan J. Mailoo, S. R. Lysine for Herpes Simplex Prophylaxis: A Review of the Evidence. *Integr. Med.* **16**, 42–46 (2017).
- Singh, B. B. *et al.* Safety and effectiveness of an L-lysine, zinc, and herbal-based product on the treatment of facial and circumoral herpes. *Altern. Med. Rev.* **10**, 123–127 (2005).
- Carr, A. C. & Maggini, S. Vitamin C and Immune Function. doi:10.3390/nu911211