

Liposomal Cat's Claw designs for health®

Immune system support using liposomal technology for superior absorption and bioavailability

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Liposomal Cat's Claw delivers a proprietary blend of ingredients to support the immune system, featuring cat's claw, monolaurin, lemon balm, and spearmint and rose oils. Each 1 mL serving (approx. 2 pumps) also provides 1000 IU of vitamin D3 for additional immune support.

Cat's Claw

The use of cat's claw for medicinal purposes dates back at least as far as the Inca civilization, where it was used as an anti-inflammatory, to fight viral infections and to stimulate the immune system.¹

Modern scientific research confirms that cat's claw extract contains a host of compounds shown to be immunomodulating and to have antimutagenic, cytoprotective, antioxidant and antihypertensive properties.²

In vitro studies indicate cat's claw may stimulate the immune system, help relax smooth muscles (including the intestines), dilate blood vessels, and act as a diuretic. The latter two effects may mean cat's claw could be beneficial for lowering blood pressure. As it contains coumarins,³ it may also have natural blood thinning effects. Cat's claw is also a potent antioxidant and anti-inflammatory, and has been used to address inflammatory conditions such as arthritis, gastritis and osteoarthritis.⁴⁻⁶

Evidence supports a role for cat's claw in protecting against oral infections. Cat's claw has been shown to inhibit growth of Enterobacteriaceae isolates, Streptococcus mutans, and Staphylococcus spp.⁷ Additional research provides evidence that cat's claw exhibits antimicrobial activity against microorganisms frequently found in infected teeth.⁸

Monolaurin

Monolaurin (glycerol monolaurate) is a potent virucidal and bactericidal agent with efficacy across an impressive array of pathogenic organisms and viruses. Unlike conventional antibiotics, it has not been shown to result in antibacterial resistance, nor to have adverse effects on beneficial intestinal flora. As such, in addition to acute use it may also be used as a potential preventive measure during cold and flu season, or taken on an ongoing basis by those susceptible to recurrent infection and illness.

Humans metabolize small amounts of monolaurin from lauric acid (such as from coconut oil) but the amount is believed to be relatively low. Lauric acid itself is virucidal and bactericidal, but monolaurin has much greater activity and as a therapeutic intervention, it may be required in higher amounts than would be obtained from reasonable consumption of coconut products in the diet. Moreover, unlike monolaurin (as a monoglyceride), diglycerides and triglycerides are not effective against microorganisms.⁹

Monolaurin is believed to inactivate lipid-coated viruses by binding to the lipid-protein viral envelope, thereby preventing it from attaching to and entering host cells. As a lipid-based surfactant, monolaurin has been shown to be effective against microbial biofilms. Biofilm-associated bacteria are typically less susceptible to antibiotic therapy than are free-living bacteria, possibly owing to the inability of some antibiotics to fully penetrate the biofilm and interact directly with bacteria.

Monolaurin has been shown to inactivate many pathogens, including herpes simplex virus and chlamydia trachomatis.¹⁰ It is also effective against both gram-positive and gram-negative bacteria, as well as yeast, fungi and protozoa, including candida albicans, several species of ringworm, and the giardia parasite.¹¹⁻¹³

Supplement Facts

Serving Size 1 mL (approx. 2 pumps)

Servings Per Container 50

Amount Per Serving	% Daily Value
Vitamin D (as Cholecalciferol) 25 mcg (1000 IU)	125%
Proprietary Blend 350 mg	*
Cat's Claw Extract (bark), Phospholipids (from Sunflower Lecithin), Monolaurin (as Glycerol Monolaurate), Lemon Balm Extract (leaf), Lemon Balm Oil (leaf), Natural Mint Oil, Rose Flower Oil	

*Daily Value not established.

Other Ingredients: Glycerine, water, ethanol, medium chain triglycerides, vitamin E (as tocopherol and natural mixed tocopherols).



Additional Ingredients

Liposomal Cat's Claw includes vitamin D3, a known immuno-supportive nutrient.^{14,15} Adequate vitamin D status may enhance the innate and adaptive immune responses; vitamin D deficiency is associated with increased risk for autoimmune conditions and susceptibility to infection.^{16,17} Lemon balm (*Melissa officinalis*) contains oils with bacteriostatic and virucidal properties.¹⁸ Additionally, lemon balm is anxiolytic and plays a role in promoting calmness via the inhibitory action of GABA, similar to benzodiazepines, but without the overt side-effects of these medications.^{19,20} Owing to the role of sympathetic nervous system activation in modulating immune function, the anxiolytic effects of lemon balm are a nice complement to its immune functions.^{21,22}

Spotlight on Lyme

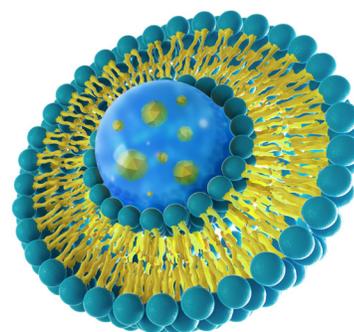
According to the Environmental Protection Agency (EPA), Lyme disease is the most common vector-borne disease in the US. The incidence of Lyme disease has approximately doubled since 1991: 3.74 to 7.95 reported cases per 100,000 people between 1991 and 2014. This may seem small, but the increase is staggering in regions where Lyme is most common, such as New England and the mid-Atlantic: New Hampshire, Maine, Vermont, Massachusetts and Delaware now report 50 to 100 more cases per 100,000 people than in 1991.²³

Lyme and other tick-borne illnesses come with a host of debilitating symptoms which, over the long term, can progress to affecting neurological and cognitive function. These illnesses are notoriously difficult to treat, but both cat's claw and monolaurin may be effective additions to Lyme protocols. Cat's claw was shown to reduce both spirochetes and rounded forms of the Lyme transmitting organism (*Borrelia burgdorferi*) in vitro, as well as disrupting and reducing the size of the biofilm.²⁴ Monolaurin, in combination with other compounds, was shown to have anti-spirochetal and anti-biofilm effects against both *Borrelia burgdorferi* and *Borrelia garinii*, the latter being the most common cause of Lyme neuroborreliosis in Europe.^{25,26} The vitamin D in this formula may be of additional benefit against Lyme when used along with the antibiotic doxycycline. In vitro testing showed vitamin D3 to have additive anti-spirochetal effects in this scenario.²⁷

What are liposomes?

Liposomes are spheres made of phospholipids—the primary building blocks of cell membranes. Owing to this structure, liposomes bond easily with cell membranes to facilitate intracellular delivery of their nutrient cargo. Thanks to this enhanced delivery and absorption, nutrients delivered in liposomal form at lower doses may have equal or greater efficacy than higher doses provided in forms that are less bioavailable.

This formula employs liposome particles that are 50-100nm in size, in contrast to 200-600nm particles that are more commonly available from other manufacturers. The smaller sized particles result in increased oral and cellular uptake and faster transmucosal absorption in the mouth, in addition to enhanced absorption throughout the rest of the gastrointestinal tract. In fact, it is recommended to hold the product in the mouth for 30 seconds before swallowing to take advantage of this effective route of absorption. Additionally, clearance of these particles from the bloodstream (via the liver and spleen) is inversely related to size: the smallest particles circulate the longest, increasing the likelihood of absorption at their target tissues.



Structure of a Liposome

Benefits of Liposomal Delivery

- Superior absorption and intracellular delivery of nutrients
- Phospholipid structure allows for effective delivery of compounds with different solubilities carried within the same particle (e.g., water- and lipid-soluble compounds)
- Liposomes penetrate the blood-brain barrier, an obstacle for other various formulations
- While there is an opportunity for quick absorption in the mouth, liposomes also survive the acidic environment of the stomach, ensuring intestinal uptake and delivery to the lymphatic system
- Liquid liposomal formulations are convenient for those who prefer to swallow fewer pills; also allow for easy dosing

Recommended Use:

- As a dietary supplement, take 1 mL (approx. 2 pumps) and hold in mouth for 30 seconds before swallowing, or as directed by your health care practitioner.

For a list of references cited in this document, please visit:

http://catalog.designsforhealth.com/assets/itemresources/LiposomalCatsClaw_References.pdf

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