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## MONOLAURIN

### MONOLAURIN AND CAPRYLIC ACID

There have been reports that some fatty acids have anti-bacterial, anti-fungal and anti-viral activities. Monolaurin is one of these and is now being used by some of **those infected with the HIV virus, including some AIDS patients**. Monolaurin comprises glycerin and the 12-carbon saturated fatty acid lauric acid. It has been shown to have anti-viral activity against a number of membraned viruses, including influenza viruses and herpes viruses in vitro, i.e., in the test tube. Apparently it works by affecting the lipid membrane of these viruses. The HIV virus is also a membraned virus. No adverse effects have been reported in those taking 500 milligrams of monolaurin for fourteen days. Whether it works in vivo (in the body) as it works in vitro remains to be seen. Caprylic acid is an 8-carbon fatty acid which appears to have activity in vitro against the yeast *Candida albicans*. Many who believe that they have candidiasis use caprylic acid along with other substances. We caution against its use as the sole agent for the treatment of documented candidiasis because of its relatively low potency. You will likely require something stronger

### Monolaurin

#### Lauricidin

Chronic Fatigue Syndrome (CFS) is a newly classified syndrome whose main characteristic is

extreme lethargy and lassitude in combination with a variety of nonspecific symptoms such as swollen lymph nodes, recurrent sore throats, low grade fevers, joint and muscle pains, intestinal discomforts, depression, and other neuropsychiatric complaints. These symptoms can last for months or years. Chronic infection with the Epstein-Barr virus (EBV) is thought by many to be the etiology of CFS, but evidence suggests that viral infections by other viruses may also induce a post-viral fatigue state.

EBV is a member of the genetically-related herpes class of viruses, which includes Herpes simplex virus 1 and 2, cytomegalovirus and Varicella zoster virus. These viruses share the ability to establish latent infections by inserting their viral genome into human DNA. Although the latency is usually maintained in a symptom-free state, any disturbance of that balance or depression of the immune system will result in the activation of these viruses with a flaring of CFS symptoms. The inclusion of a natural non-toxic antiviral agent is of vital importance to the success of any treatment plan to overcome chronic low-grade viral infections such as in CFS. A large

number of individuals have benefited from the use of the natural fatty acid complex, monolaurin. Monolaurin is the glycerol ester of lauric acid, a 12-carbon chain fatty acid **found naturally in breast milk and certain vegetable oils**. This fatty acid has been used as a germicidal agent for centuries. Lauric acid was originally discovered when microbiologists studied human breast milk to determine the antiviral substances which protected infants from microbial infections. Other fatty acids were also found to have antimicrobial actions but the 12-carbon chain of lauric acid was found to be the most active. In addition the esterification of lauric acid yielded a compound, Monolaurin (glycerol monolaurate), with even greater antiviral activity. The human body has the machinery to metabolize fatty acids and glycerol, the end-products of fat digestion. Both the parent substance (lipid) and its metabolic breakdown products are non-toxic to humans. Monolaurin, given orally in doses of 600-1800 mg/day is generally well tolerated. Gastrointestinal symptoms are rare. No significant abnormalities have been noted in liver enzymes, total leukocyte count, red cell count, hematocrit, hemoglobin, or

platelet levels. Monolaurin has been studied at medical research centers, including the Center for Disease Control, because of its high antimicrobial activity. These studies revealed information about the antiviral mechanism of monolaurin.

**Monolaurin was found to be active against enveloped DNA and RNA viruses such as the influenza virus, paramyxoviruses, rubeola virus, bronchitis virus, and the herpes family. The fatty acid had no effect on diseases caused by non-enveloped viruses such as polio virus, coxsackie virus, encephalomyocarditis virus, rhinovirus, and rotaviruses.** The mechanism of action involves direct antiviral activity. The lauric acid binds to the lipid-protein envelop of the virus and inactivates the virus. **Recent publications have shown that monolaurin and lauric acid inhibit the replication of viruses by interrupting the binding of virus to host cells and thus preventing the uncoating of viruses necessary for replication and infection. Other studies have shown that monolaurin is able to remove all measurable infectivity by directly disintegrating the viral envelop.** Binding of monolaurin to the viral envelop also makes the virus

more susceptible to degradation by host defences, heat, or UV light. In addition a recent study also showed **monolaurin's use in the treatment and prevention of bacterial infections caused by Staphylococcus aureus and Streptococcus agalactiae. Clinical Studies have shown that monolaurin is effective against Epstein-Barr virus, Influenza, Cytomegalovirus, and Herpes type I and II.** As a non-ionic surfactant on the GRAS list, monolaurin is non-toxic and has little potential for gastrointestinal irritability. Monolaurin

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