

## **ECOMER<sup>®</sup>**

### **To boost the immune defence against swine flu virus, H1N1 A 2009**

Flu vaccination may help to avoid the dreaded swine flu. Such inoculation leads to the development of specific antibodies targeting the virus particles invading the body. However, it takes a certain time for the immune system in the body to develop this acquired immune defence. Furthermore the swine flu virus may change into a new subtype with an antigenic shift. Such a rare but not unrealistic incident could thwart all vaccination efforts.

In addition to the acquired specific immune defence, the body has a nonspecific immune defence, the innate immune system, which is responsible for the overwhelming part of the immune defence against invading viruses and bacteria. This nonspecific immune defence system consists mainly of macrophages and natural killer cells and other white blood cells together with signal substances, cytokines. This nonspecific immune defence has the ability to recognize foreign matters including viruses and bacteria and to launch a counterattack to destroy the invaders. In that way the overwhelming majority of potential infections are arrested in epithelial and superficial connective tissue and mucus barriers long before the specific immune defence has had time enough to come to rescue.

Occasionally the immune system may be brought out of balance and be less well functioning. Thus old age, poor diet, exhaustive life style, mental or physical stress, sudden change in personal life, surgery, and more have all been found to reduce the efficacy of the immune defence. In the present days with the swine flu claiming more and more lives it would seem prudent to ensure that ones immune defence, especially the innate immune defence system, is well functioning.

Shark liver oil has for centuries been used around the world as a nutritional supplement for prophylaxis and treatment of minor infections, especially colds and flu. Shark liver oil has been subjected to extensive studies. The primary active principle for boosting the immune system has been identified as alkylglycerols. This group of compounds is present in high concentrations in shark liver oil. Surprisingly mother's milk also contains alkylglycerols. It is likely that nursing provides the infant with natural protection and enhancement of its immature immune defence against infection. This principle has been shown to work both in animal studies where the lactating sows and female rats were given feed supplemented with shark liver oil or synthetic alkylglycerols. This lead to increased immunoglobulin and granulocyte concentrations, indicating a boosting of both specific and innate immune defence capacity. Other animal experiments have shown shark liver oil to augment delayed-type hypersensitivity reactions, to increase granulocyte concentration and activity, and to increase macrophage activity, both important components of the innate immune defence system.

The results from the animal experiments are in concord with results from human pharmacological studies. Thus Ecomer<sup>®</sup> has been found to increase granulocyte activity and the C4 complement production. A clinical study has shown that shark liver oil treatment of patients with frequently recurrent aphtous

stomatitis resulted in an increased activity of granulocytes with an accompanying 50% reduction of new lesions during the three month treatment period. The investigators conclude that shark liver oil contains compounds that have a positive immunomodulation action and alleviate the course of disease.

Other clinical investigators have concluded that “shark liver oil supplementation in high doses is beneficial in bacterial, viral and fungal infections”, “shark liver oil has been found to be useful in treatment of conditions resulted from inadequate immune response”, and “alkylglycerols may be used ... as an immune booster in infectious disease”.

The original shark liver oil preparation from Sweden is Ecomer<sup>®</sup> produced by Natumin Pharma AB. This preparation was introduced in 1986 and is available in many countries around the world. The product has an excellent tolerability.

The swine flu is in the beginning of a pandemic spread. The amount of vaccine that will be available is limited. The vaccine may be useless if the virus changes its antigenic properties. Therefore Natumin Pharma AB has decided to increase its production capacity of Ecomer<sup>®</sup> in order to be able to meet an increased demand for this agent with capacity to boost the immune defence system against the swine flu virus, H1N1 A 2009.

For further information or questions to Prof. Näslund, Karolinska University Hospital, please contact:

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**YUGOSUN MEDICAL (Pty) Ltd.**



Physical Address:  
114 Main Str. (Crn. Main Str. & Rock Rd), Bordeaux,  
Randburg 2194  
Johannesburg, South Africa

Postal Address  
PO. Box 732, Ferndale 2160  
Johannesburg, South Africa

Tel: +27 11 886-8678/3407/ 3696,  
Fax: + 27 11 886 2374,

E-Mail: [info@ecomer.co.za](mailto:info@ecomer.co.za)  
Web: [www.ecomer.co.za](http://www.ecomer.co.za)