

Vital™ Oils - Sharks Can Be Mans Best Friend Also



The Story of Shark Liver Oil

The liver of the shark weighs approximately a third of its total body weight and it is this nutrient that provides essential omega 3 fatty acids. Shark liver oil is a natural substance – not a medical drug but a food substance.

The shark liver also contains:

- Alkylglycerols (AKGs)
- Vitamin A
- Natural Vitamin E
- Squalamine
- Free fatty acids

Alkylglycerols AKG's

AKG's are a group of three natural substances which are involved in the production and stimulation of white blood cells in bone marrow. AKG's are

found in a variety of marine and freshwater fish; shellfish, cows, sheep and in the breast milk of mammals. There are in fact ten times more AKG's in human breast milk than in cow's milk, making for a better choice for babies.

AKG's in the milk of any mother in any species are the active ingredient which provides the infant with natural protection and immunity against infection until the infant's own immune system is fully developed. Some experts believe that feeding breast milk to infants lowers the risk of their developing breast cancer as adults. In short, few would dispute the antiviral and other long term health benefits of AKG-rich breast milk.

Background

Background studies on the shark have been completed in more recent years and that of the Greenland Shark known to have been lured by the Eskimos native to Greenland from the depths of the Arctic Ocean. These depths are at three to four thousand feet and the shark can grow as big as twenty four feet, where it is believed that no photographs exist of it today. Although the sharks flesh is poisonous to eat unless numerous times cooked, the liver of the shark accounts for a third of its total body weight. The liver contains the immunological substances known as AKG's. It is to these AKG's that scientists attribute much of the shark's amazing immune system and its consequent general good health.

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Virtually all species of sharks are known to have an extraordinary resistance to the growth of tumors and infections. In its continuous research study conducted over the past twenty-five years, the Smithsonian Institution has found only one malignant tumor in over 25,000 sharks examined in that study.

The Etmopterus species of shark is found in southern waters off the shores of New Zealand and the deepest southern oceans in the world. Within the last decade, it has been discovered that the liver of the Etmopterus shark yields the highest natural concentration of AKG and squalene in combination.



Table 1

Typical Shark Liver Oil Capsule Profile Composition

Alkylglycerols (AKGs)	Squalene
Triglyceride	Iron (Fe)
Free fatty acid	Zinc (Zn)
Copper (Cu)	Natural vitamin E
Vitamin A	Squalamine
Omega	3 Fatty Acids

Table 2

Percentage Composition of AKG from various sources

AKG	Human Bone Marrow	Human Milk	Shark Liver
18:1	16.7	33.8	59.4

The number on the left of the colon is the number of carbon atoms in the AKG "long chain". The number to the right of the colon is the number of unsaturated bonds between the carbon atoms. 18:1 means eighteen carbon atoms and one unsaturated bond.

The liver oil of the Greenland Shark contains approximately 30% AKG's, while the Etmopterus and Centrophorous Plunketi contain between 30% and 40% of AKG's, before processing.

Squalene has been shown to possess some remarkable antibiotic and hormonal attributes, however, has several other components of tremendous medical benefit, one of which is AKG.

The first reported discovery of AKG's was made in 1922 by two Japanese researchers, M. Tsujimoto and Y. Toyama, from sharks in the unpolluted waters of New Zealand. At the time, the huge potential seemed to be unrevealed to them. Thirty years later, in 1952, a young Swedish doctor named Astrid Brohult began to give the bone-marrow scrapings from calves to children hospitalized with leukemia.

Dr Brohult reasoned that since white blood cells are produced in bone marrow, perhaps an extract of marrow would help in abnormal white blood cell production. Wrapping the bone-marrow

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scrapings in chocolate, these “treats” were dispersed to the affected children. Astounding results followed yet the normalization of the white blood cell stimulation was uneven.

It was not until 1962, that Dr Sven Brohult a professor in chemistry, husband of Dr Astrid Brohult, was able to analyze the bone marrow and identify the efficacy of AKG’s within the calves’ bone marrow. The Doctors Brohult and a Swedish pharmaceutical company determined that the best known source of AKG’s came from the Atlantic Ocean in the liver of the Greenland shark.

Concurrently with Doctors Brohult studies, Swedish researcher Dr Bob Hallgren was able to discover and isolate methoxy-substituted AGK’s in shark liver oil. In a series of scientific papers written with co workers Drs. Gunnel Stallberg and Bernt Boeryd, Hallgren who worked principally with animal subjects, reported that the AKG’s did have an inhibitory effect upon the growth of tumor cells in the laboratory (in vitro) and also were capable of limiting and even arresting the growth and spread of experimental tumors planted in mice (in vivo).

According to Doctors Brohult, in their publications, AKG that is derived from shark liver oil have several important effects in cancer therapy. For example, to some extent, AKG’s prevent the loss of white and red blood cells and platelets resulting from radiation therapy.

The Human Immune System

The immune system of the human is very different from that of the shark. The contrast is quite simple – our bone marrow manufactures the components of our immune system while sharks have neither bone nor marrow.

Each of us, with some rare exceptions are born with an immune system that is divided into two parts: the innate immune system and the acquired immune system. The innate immune system is the body’s first line of defense against invasion from hostile and even non-hostile forces. It attacks everything and anything it does not identify as belonging to one’s particular body.

The acquired immune system is different in that it only functions when it recognizes specific intruder antigens (viruses, other micro-organisms, cancer cells, and other foreign substances). This recognition comes from previous experience and is associated with “building immunity”. When the immune system recognizes an invasion of a threatening alien substance, it mobilizes various types of white blood cells, some called macrophages and lymphocytes, as well as different chemical agents such as kinins.

One type of lymphocytes is B cells. B cells are located in bone marrow; they defeat foreign cells in the bloodstream before they have infiltrated the cell tissue. T cells are borne in the bone marrow but immediately migrate to the thymus gland. T cells attack foreign invaders within those cells that have already become infected. A third group of lymphocytes are called null or Natural Killer (NK) cells. They are the immune systems most aggressive cells, even attacking cancer cells.

AKG’s found in the shark liver oil of the Greenland shark, according to Dr Ingemar Joelson, have demonstrated a singularity in the antioxidant effect on cells. He believes that as antioxidants these AKG’s are uniquely effective in attacking and eliminating those free radicals which have penetrated cell membranes and tissues, where they are most dangerous. When the DNA inside the cell is damaged by free radicals, cancer can result.

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AKG has also demonstrated a remarkable ability to reduce radiation injuries; subsequently, those patients treated with AKG's before and during radiation therapy were much healthier than those treated either with radiation alone or with AKG's administered during treatment. Shark liver oil, rich in AKG's, acts as a natural booster of the body's immune system.

Squalamine

Michael Zasloff, M.D., Ph.D., discovered the substance called Squalamine in his search for natural antibiotics in the animal kingdom. Squalamine is found in the sharks stomach and other tissues, but later studies show that the highest amount of squalamine is located in the shark's liver. Squamaline has a definite effect, similar to an antibiotic, on various strains of bacteria. Recently, Dr Zasloff and a team from John Hopkins School of Medicine has reported that squalamine has been shown to control the growth of brain tumors in and prolong the lives of experimental rats. Dr Henry Brem and Dr Allen Sills, part of Dr Zasloff's research team, reported that squamaline "attacks tumors by repressing the formation of new blood vessels" which would feed the tumor and allow it to grow. Drs. Brem and Sills hope that one day squamaline may someday be used in the conjunction with standard chemotherapy, radiation and surgery in the treatment of brain tumors.



Material source and authors

Neil Solomon, M.D., Ph.D, Richard Passwater, Ph.D., Ingemar Joelson, M.D., Ph.D. "Shark Liver Oil, Nature's Amazing Healer" Kensington Publishing Corporation

Sharks are not hunted specifically for the product that Zenachi uses. These sharks are incidentally caught in ocean fisherman's nets and smart conservation has applied harvesting the liver from these fish so they can help humans in the prevention against degenerative diseases.

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