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Olive Leaf Extract

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By Morton Walker, D.P.M.

The olive branch, a centuries-old symbol for peace, may contain in its leaves our best weapon against a host of disease producing bacteria. As more bacteria mutate and resist commonly prescribed antibiotics, scientists are searching for alternatives. One option may lie in the leaves of the green olive tree.

Members of Western industrialized nations often suffer immune-system degradation and become susceptible to diseases caused by microorganisms. These pathogenic organisms include:

1. viruses especially retroviruses-- that don't just pass through cell membranes, but take control of the affected cell's genetic machinery;
2. antibiotic resistant bacteria that in some cases thrive on antibiotics and other synthetic drugs developed to kill or suppress them.
3. yeast strains and additional opportunistic fungi that produce candida-toxin toxins given off by Candida and other micro-toxins that may contribute to the collective symptoms of chronic fatigue and immune dysfunction 9 and
4. parasites, both protozoa and worms, that are sources of serious diarrheal diseases and constitute the greatest single cause of sickness and death among humans.

After 40 years of pushing antibiotics for any ailment, physicians are now confronting bacteria that have built defenses against those same drugs. Some infectious bacteria that

were once treatable are stronger and often deadly. The reappearance of highly infectious bacteria is caused in part by the overuse and misuse of antibiotics, but the resilience of bacteria also stems from the ingenious biochemistry of the microorganisms themselves. To survive, microorganisms and fungi mutate into resistant strains.

Nature's Anti-microbial Agent

Oleuropein, the bitter glucoside lodged in leaves of the green olive tree (*Olea europaea*), and products of its hydrolysis, contain components valuable for treating both infectious and degenerative diseases. The empirical formula of oleuropein (C₂₅H₃₂O₁₃) makes it a member of the iridoid group, a uniquely structured chemical class that contains a carbohydrate component appearing as D-glucose.

The first iridoid found in nature, verbenalin, was isolated circa 1835. No investigation into the group's structure began until 1963 because iridoids are extremely unstable-one member of the iridoid group has the capability to transfer into another group. This biogenetic characteristic gives the iridoid oleuropein its therapeutic antimicrobial power.

In a document describing how oleuropein works, James R. Privitera, M.D., of Covina, Calif., says olive leaf extract brings about:

1. A critical interference with certain amino acid production processes necessary for the vitality of a specific virus, bacterium or microbe;
2. Interference with viral infection and/or spread by inactivating viruses or by preventing virus shedding, budding or assembly

at the cell membrane;

3. Direct penetration into infected host cells and irreversible inhibition of microbial replication;
4. Neutralization of the retrovirus' production of reverse transcriptase and protease. These enzymes are essential for a retrovirus such as human immunodeficiency virus (HIV) to alter the ribonucleic acid (RNA) of a healthy cell;
5. Direct stimulation of phagocytosis as an immune system response to germs of all types.

Oleuropein is a stable chemical except in nature, where certain environmental alterations cause molecular properties to change. For example, during the several thousand years olive leaves have been antimicrobial, pathogenic microorganisms have continued to be adversely affected by the olive leaves' oleuropein. This may indicate that the chemical structure of oleuropein tends to alter with the microbes' mutations, allowing it to continue inhibiting their growth, spread or survival. In contrast, synthetic antibiotics do not change to maintain resistance to bacteria.



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Turning Over A New Leaf

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extract is so safe that the investigators failed to determine the lethal dose (LD50) or even the toxic dose (the LD50 is the calculated dose of a chemical substance expected to cause death in 50 percent of a defined experimental animal population, as determined from exposure to the substance by any route other than inhalation).

Research done by an olive leaf extract producer showed that elenolic acid, one of oleuropein's hydrolysis products, is the chief destroyer or growth inhibitor of many kinds of pathological microorganisms (see chart) and numerous roundworm, hookworm, tapeworm and flatworm parasites. Another hydrolysis product, aglycone, has similar properties. These oleuropein components worked efficiently against many potentially harmful organisms ranging from all species of herpesvirus; poliovirus 1, 2 and 3; to encephalomyocarditis and Newcastle disease enzymes. Thus, the oleuropein components brought together in olive leaf extract respond effectively against the organisms listed in the chart.

Olive leaf extract should be taken by people exposed to any type of pathogenic microorganism, both on a preventive basis and, if disease symptoms are present, as a readily accessible self-medication.

Dosages recommended by health professionals include one or two tablets or capsules totaling 250-500 mg daily for preventive purposes. For treating symptoms, the dosage varies with the severity of disease but ranges from four to eight pills daily, never exceeding nine 60mg pills per day. Dr. Morton Walker, a professional medical journalist and

author, had his 70th title, Nature's Antibiotic: Olive Leaf Extract, published in November 1997 by Kensington Publishing Co. Inc.

The multifunctional monoterpene, a chemical



salt called calcium elenolate [(C11H13)62Ca] isolated from acid-hydrolyzed aqueous extracts of olive leaves, is virucidal for all strains against which it has been tested. It inhibits reverse transcriptases and most other enzymes made by viruses and inhibits all Escherichia coli and Bacillus subtilis bacteria strains. When tested in vitro, this derivative of olive leaf extract had a direct and irreversible effect on the microorganisms'

Antimicrobial

Lab tests done by The Upjohn Co. in the '60's show olive leaf extract kills 56 pathogens including:

- ◆ Herpes
- ◆ Newcastle disease
- ◆ Reovirus (Deering)
- ◆ Parainfluenza 3
- ◆ Vaccinia
- ◆ Coxsackie A21
- ◆ Maloney Murine Leukemia
- ◆ Encephalomyocarditis
- ◆ Pseudorabies
- ◆ Rauscher Murine Leukemia
- ◆ Polio 1
- ◆ Polio 2
- ◆ Polio 3
- ◆ Influenza A (PRS)
- ◆ Moloney sarcoma
- ◆ Vesicular stomatitis
- ◆ Lactobacillus plantarum (W50)
- ◆ Sindbis
- ◆ Staphylococcus aureus
- ◆ Bacillus subtilis
- ◆ Escherichia coli
- ◆ Salmonella typhimurium
- ◆ Pseudomonas fluorescens
- ◆ Plasmodium falciparum

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SEAGATE®

OLIVE LEAF EXTRACT

A Statement Concerning Oleuropein % and Standardization

The following is an explanation of the reasoning behind why Seagate's olive leaf labels do not state a "standardized % oleuropein". The principal reason is that this is not a standardized extract but rather a "whole herb extract". We use a cold-pressed freshwater extraction method to process this product, with no solvents or alcohol. Seagate is not trying to isolate any one specific phytochemical, like oleuropein, but rather is concentrating all the phytochemicals in this herb without chemically destroying or eliminating any one of them.

This is also how Seagate processes its grape seed and grape skin extracts. After all, this is supposed to be the "natural foods industry", not the pharmaceutical industry. Foods and supplements should be processed without chemicals or solvents like hexane, and without trying to precipitate out one chemical component from an herb.

Another factor involved is - truth in labeling. Many "manufacturers" of grape seed extract were quick to put "standardized to 95% OPC's" on their grape seed extract labels. Unfortunately the methodology to measure OPC's in a lab does not exist. Also, OPC's are not to be the only active ingredient in the grape. Resveratrol from the grape skin is now being used in anti-cancer studies, most notably at the University of Pittsburg. There are also a host of other anti-oxidant phytochemicals and other active nutrients to be found in the grape. However, so many "manufacturers" who process nothing more than paperwork, continue to pick up these "buzzwords", and place them on their labels hoping present their product as better than their competitors', when in fact they are just clones of one another, trying to market their product as better or containing more active ingredient. This is basically the "mine is bigger than yours" mentality used to market supplements.

This same approach to sales was commonly used in the shark cartilage product category when Seagate entered this industry in 1994. Almost all the shark cartilage labels were then claiming a % of mucopolysacharrides, each trying to show that theirs had more than other competing brands. Unfortunately, mucopolysacharrides is a meaningless term in relation to shark cartilage. As with the case of OPC's in grape seed, there is also no methodology to measure the mucopolysacharrides in shark (we checked with the head of the chemistry dept. at San Diego State University).

Seagate's level of oleuropein in olive leaf extract, for the record, is 1%. The lab that performed the test has measured many other samples and found all to fall within the range of 1 to 7%. What really convinced us not to try to isolate oleuropein was the 1969 study by Upjohn, where they further broke this chemical down into elenoic acid. It worked fine in in-vitro testing but completely failed in clinical trials. The isolation of that one chemical made it unstable; and combined with blood serum proteins, it became inactive.

The proof of this product's quality and potency has been in its results. Seagate has been used in clinics, and by doctors very effectively. In the most extreme use, a clinic near Dallas is using it to treat teenage girls with genital herpes. Syndicated national radio and t.v. health shows regularly discuss this Seagate product.

Seagate operates under the belief that Nature made olive leaf right to begin with, and we should be careful when we process it not to diminish this raw material nor change the balance of the various phytochemicals that are in it. We are still discovering its active components. We resist playing what is strictly a marketing game of randomly choosing this month's active ingredient and putting as large a number as possible on the label in hope that the public might overlook the fact that this is entirely a gimmick to sell a product.

As always, thank you for your interest in Seagate products and your concern that you are buying the best. While hopefully we actually prove to be making the best product in each category, at least we can say that we process these products ourselves, in our own plant, without chemicals, and without destroying or removing all the other active nutrients that were placed in this herb by Nature.



Olive leaf extract

(active compound-Oleuropein)

- Anti-viral activity against conditions like herpes virus and the common cold.
- Immune system booster.
- In-vitro anti-bacterial activity.
- Potential activity to combat hypertension.

The olive branch has historically been a symbol of peace. Throughout Mediterranean history we find references of the leaves of the olive tree being used to treat fever related to disease. During the 1970's, Upjohn pharmaceutical company isolated and synthesized the active principles of the olive leaf, focusing on a compound call oleuropein. Upjohn's in-vivo studies found their compound to be highly protein bound and therefore totally inactivated; the research was discontinued. Years later the research was again picked up by a man named William Frederickson. He was convinced that the long history of documented use was proof of activity in-vivo and eventually concluded that the configuration of the molecule results in a difference in activity. The three dimensional properties of a molecule have a great deal to do with its binding capacity and in turn its activity; mirror images of the same molecule can cause difference in activity. Mr. Frederickson and a major European manufacturer have developed a 17-23% oleuropein extract from the olive leaf, which is making great progress.

The published clinical studies in humans are scarce, but the documentaries are abundant. There seem to be some studies under way in European medicine.

CAUTIONS: The olive leaf extract seems to be well tolerated, with minimal if any side effects. There has been a condition called the "die-off" effect, which is believed to occur when a large number of infectious organisms are killed off at one time. Large amounts of toxins are released into the blood from the cells of the dead organisms. Flu like symptoms can then result lasting for a day or two. This condition is described in some of the documentaries, it is not a medical documented condition.

DOSING: Recommended doses of the olive leaf extract is 500 mg twice a day for maintenance, and up to 3 grams per day for an active condition.

D. Paul Barney, M.D.

Note: The information contained on this sheet is not intended as medical advise, but is solely for education purposes only. It is not intended to diagnose, treat, or prescribe, and does not replace the services of a trained physician. It is assumed that the reader will consult a medical or health professional if you know or suspect you have a serious health problem.