

Rationale For Pancidrim™

It is a commonly held belief that modern medicine is the only thing standing between civilization and full-scale plague-like diseases. Vaccinations, antibiotics and chemotherapeutic agents are thought to provide a parapet against viruses, bacteria, protozoa and other parasites and infective agents.

But is this assumed truth really valid? First we must ask the question, how did civilization survive prior to modern medicine? Further we must ask how it is that wild animal populations survive in the filthy infective brew ubiquitous in nature, and in which they wallow, without the intervention of medicine? Surely these observations of history and nature must cast doubt on modern medical measures as a necessity for survival.

In addition, consider the meaning of the graphs on the next page charting mortality of infectious diseases against the introduction of the medical measure commonly credited with being the cause of the decline in the disease. In each case it can be seen that the majority of the decline of the disease occurred *prior* to the introduction of the medical measure attributed with the cure. It is easy to take credit for lowering the level of the ocean if you are bucketing water out while the tide is receding.

There is a natural ebb and flow of infective disease in nature. In any given population, the introduction of an infective agent will only affect a percentage of the group. Some succumb to disease and recover, some may die from it, and others may never be affected. The reason is not the presence or absence of vaccines or antibiotics, since this phenomenon is present in all animal and plant populations completely apart from the puny medical efforts of humans. It is also not because of sporadic exposure since most infective agents spread rapidly and freely within populations.

The only explanation must be that susceptibility to disease is affected by the innate immunity and health of the host. If the body is weakened from stress, improper nutrition, pollutants or environmental dislocation, it becomes easy prey. If the body is strong and at balance, it is a formidable immune fortress against opportunistic disease agents. It is the host, not the germ, that is the key to understanding disease.

Past plagues were “cured” by the advent of better sanitation and food distribution. It is the plumber and trucker who conquered the plagues, not the medical scientist working in the laboratory. This is less romantic, exciting and profitable than medical technology, but nevertheless far closer to the truth.

PANCIDRIM™

W Y S O N G

PURPOSE:

A nutritional supplement designed to supply natural nutrients that have antibacterial, antiviral and antifungal properties.

INGREDIENTS:

Natural Phytonutrient Extracts and Concentrates of Olive Leaf, Odorless Garlic, Aloe Vera, Pau D'Arco, Birch Bark and Pomegranate; Propolis.

DIRECTIONS:

Suggested Dosage: Two capsules three times daily. Pancidrim™ is best assimilated if swallowed with meals. For best results, Pancidrim should be used as part of the Wysong Optimal Health Program™.

For long-term usage discontinue two days out of every week and five successive days every month to decrease the potential for intolerance developing.



DID MEDICINE VANQUISH INFECTIOUS DISEASE ?

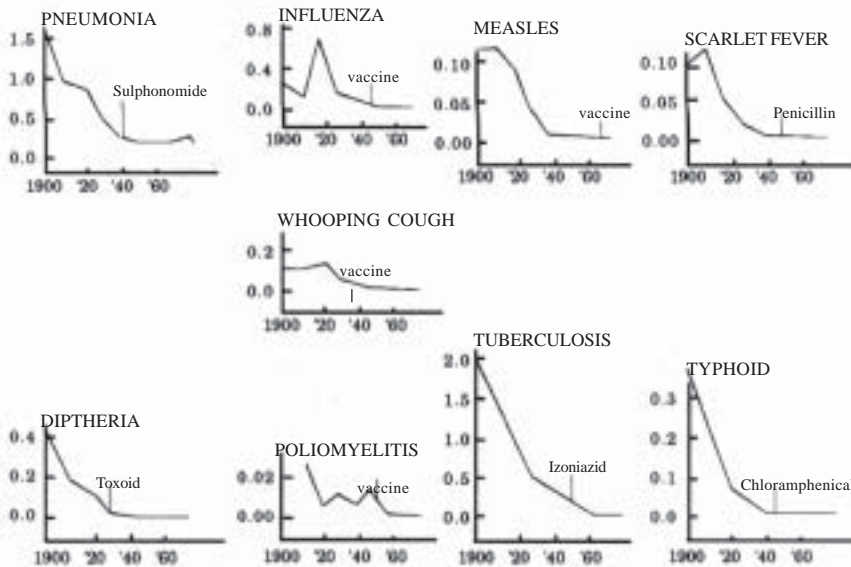


Figure 1. The fall in the standardized death rate (per 1,000 population) for nine common infectious diseases in relation to specific medical measures for the United States, 1900-1973.

From: McKinlay JB et al. The Questionable Contribution of Medical Measures to the Decline of Mortality in the United States in the Twentieth Century. *Milbank Mem Fund Q Health.* 55(3):405-428, 1977.

Even so, a multi-billion dollar medical industry continues to promote the fallacious view that disease is just one of those inevitable things, and our only hope is a new vaccine or antibiotic. But such cures never seem to come – and when they do, they are often worse than the disease.

For example, the prevalent use of antibiotics has now stimulated resistant super-bacteria.

Also, the only cases of polio that now occur in the U.S. result from the vaccine itself.

Consider this also: The widespread indiscriminate use of infective vaccine agents seriously challenges our finite immune system with massive doses of antigens, and likely increases susceptibility to other disease. We only pretend to know the full effects of injecting such materials into the body.

But more insidious is the mindset that has resulted in the public. Treated as ignorant plebeians by the medical community, people now live

thoughtless lives with little consideration for prevention other than visiting a physician for a yearly checkup, stress test or mammogram. They have become dependent upon what they are spoon-fed by the medical community, and do not advance in learning what they themselves can do to foster their own health – and with that a robust immune system.

Infective agents will never be eradicated. They are too small, too ubiquitous and too smart. They have survived and flourished in nature for eons and will continue to do so until man invents a large enough sterilizer to put the whole Earth in. Not soon, I hope.

So how do we meet the challenge of infective disease? In seeking health we usually look for an easily identifiable enemy to blame – like a germ. Self-discipline to remain strong and healthy isn't considered. However, as in meeting any life problem, the answer is not simple and reducible to a single act or product. It first of all means understanding our

place in nature and living in accord with it. Additionally, our modern world of physical and emotional stresses and toxins, combined with a compromised processed food diet, is best offset with appropriate supplementation and optimal levels to restore natural balances. The Wysong Foundation Formulas™ are designed for this purpose.

Specific Nutrient Support Formulas™ have been developed, including Immulyn™ to stimulate the health of the immune system and, the subject of this monograph, Pancidrim™ to provide natural anti-infective agent nutrition. These two supplements, combined with the lifestyle, dietary and supplement fortification mentioned above, provide an exciting new and safe option for fortifying defense mechanisms and directly inhibiting infective agents. Most importantly, it puts you in a position of knowledge and control – rather than that of a hapless victim waiting for disease to strike.

Pancidrim is the result of several years of research seeking nontoxic natural nutritional supplements. Ingredients have been selected based upon the weight of scientific evidence and traditional experience with their use. Supplementation with natural nutrients and “nutraceuticals” is an emerging science and precise mechanisms of action have not been determined in many cases.

Biochemistry

Pancidrim olive leaf contains a substance known as oleuropein, which exhibits antimicrobial and antiviral effects. The antimicrobial effects of oleuropein include inhibition of pathogen cell growth and production of enterotoxins. Oleuropein acts against cold and flu viruses by entering infected cells and interfering with amino acid production. Oleuropein, in a hydrolyzed form called calcium elenolate, has

antiviral effects and additionally prevents the oxidation of LDL cholesterol.

Pancidrim garlic owes its antimicrobial effects to the vast arsenal of sulfur-containing volatile oils it contains. The principal component is allicin, which is released when garlic is crushed or chewed. Other sulfur compounds in garlic are alliin, and S-methyl-L-cysteine sulfoxide. These three sulfur compounds are generally considered to be responsible for the pharmacological properties of garlic. Garlic has broad-spectrum antimicrobial activity against bacteria, viruses, worms and fungi.

There are over 300 species of aloe plants, but one of the most popular medicinal varieties is *Aloe vera*, also known as *Aloe barbadensis* and *Aloe vulgari*. Pancidrim also contains numerous compounds that possess biological activity. Among these, acetylated mannose has been isolated and studied for its antiviral and immunostimulant effects.

Pau D'Arco is a tree native to Brazil. The bark of the Pau D'Arco tree, as it is found in Pancidrim, contains a substance called lapachol that is antibacterial, antiviral and antiparasitic. The underlying mechanism has been shown to center around interference with the electron transport chain (a pathway crucial to cellular respiration). Lapachol has also been shown to interfere with viral replication. Another constituent of the bark, betalaphone, boasts diversified antiparasitic activity.

The bark of the birch tree is abundant in zinc tannates. Tannates, such as those found in Pancidrim, are powerful antifungal substances that act through their agglutinating (clumping) and astringent (shrinking) effects.

The pomegranate (*Punica granatum L.*) has long been used as a natural intestinal parasite killer. Its pathogen fighting abilities have now begun to permeate the medical literature. Pomegranates can destroy several viruses nearly on contact, as well as inhibit numerous strains of bacteria and fungi. The active constituent that appears to be responsible for this is ellagic acid, a naturally occurring phenolic compound. Ellagic acid is a potent inhibitor of DNA topoisomerases, enzymes that modify DNA configuration by opening gaps in the strands, resulting in the relaxation of the coiled helix. The relaxation of the helix is critical to vital functions such as DNA replication and transcription. By this action, Pancidrim pomegranate inhibits viral, bacterial and fungal replication, preventing the manifestation of the associated symptoms or diseases.

Two of the natural active components in Pancidrim propolis are caffeic acid and a group of molecules known as flavonoids. Research has shown that propolis has strong antibacterial, antifungal, antiviral, anti-amoebic and anti-inflammatory properties that are attributed to these components.

Clinical Evidence

Pancidrim oleuropein has been shown to inhibit the growth of *Staphylococcus* and its production of enterotoxin B. The presence of oleuropein also delayed the growth of *Bacillus cereus*. The calcium

elenolate hydrolyzed form of oleuropein has been found to be effective against dozens of different viruses. The amount of virus that was inactivated was dependent upon the concentration of the calcium elenolate and the incubation time. *In vivo*, calcium elenolate has been studied and was found to be effective against the parainfluenza 3 virus. In addition, the ability of oleuropein to prevent the oxidation of LDL cholesterol has been shown in pharmacological studies.

In the laboratory, garlic juice and allicin have been shown to inhibit *Staphylococcus*, *Streptococcus*, *Bacillus*, *Brucella*, and *Vibrio* species at low concentrations. More recent work has pitted garlic against commonly used antibiotics such as penicillin, streptomycin, erythromycin, and tetracyclines. These results demonstrated not only garlic's antibacterial capabilities, but also that garlic could inhibit the growth of some bacteria that had become resistant to one or more of the antibiotics. As a fungicide, garlic is especially active against *Candida albicans* both *in vivo* and *in vitro*, being even more potent than six separate antifungal agents. The antiviral effects of garlic have been shown *in vivo* to protect against the influenza virus. In addition, garlic enhanced the amount of antibody produced against the influenza virus when given influenza vaccine.

THE CHEMICAL STRUCTURE OF OLEUROPEIN

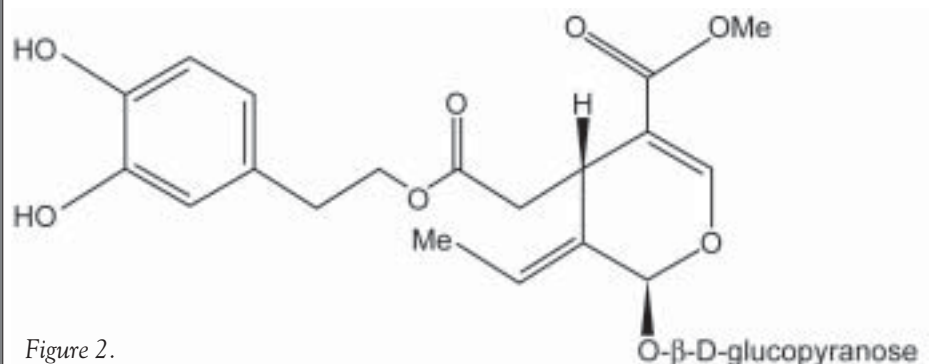
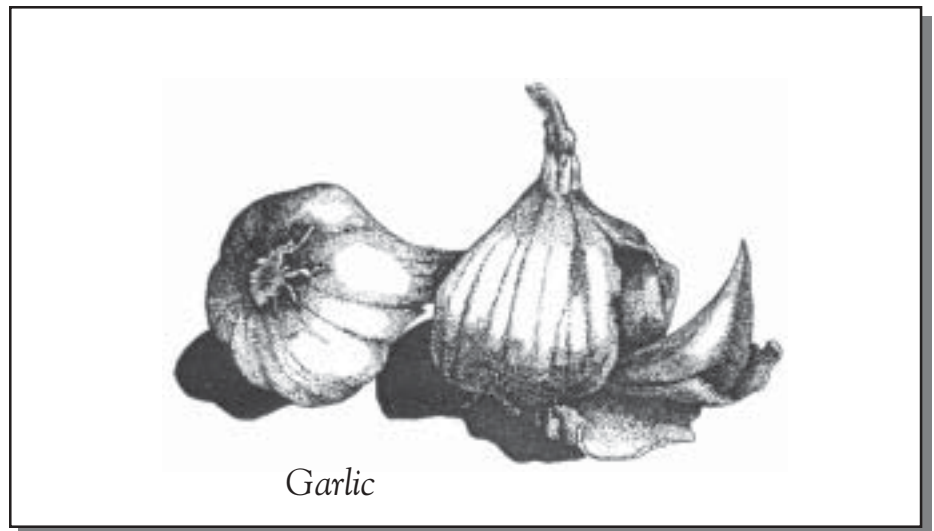


Figure 2.

The antimicrobial activity of aloe, as found in Pancidrim, has been found to be similar to that of silver sulfadiazine (a potent antiseptic used to treat severe burns). Researchers prepared an aloe extract and found it bactericidal against several microorganisms, the action of which varied by dose. At lower concentrations, the extract killed *Pseudomonas*, *Klebsiella*, and *Serratia* species, as well as many others. At higher concentrations, *Streptococcus faecalis* and *Candida albicans* were adversely affected. The acetylated mannose portion of the aloe plant (acemannan) has been found to have significant antiviral activity against several viruses, including HIV-1, influenza, and measles virus.

Lapachol, a naphthoquinone, has been the subject of many scientific studies since it was first isolated in 1882. Laboratory studies have demonstrated that Pancidrim lapachol has antimicrobial activity against gram-positive bacteria, and strong activity against *Brucella sp.* Naphthoquinones have also been shown to be very effective against *Candida albicans* and *Tricophyton mentagrophytes*. The beta lapachone component of Pau D'Arco has been found to have diverse antiparasitic activity and antiviral action. The mechanism of action of lapachol against some microorganisms is through interference with the electron transport chain in mitochondria. Lapachol was found to inhibit oxygen uptake in *Plasmodium knowles* by 74%. For viruses, lapachol is active against herpes virus, poliovirus and vesicular stomach virus. Beta lapachone can inhibit certain viral enzymes such as DNA and RNA polymerase and reverse transcriptase. The enzyme's inhibition mechanism is not yet fully understood, but may be related to superoxide production.

The tannates found in the bark of the birch tree and in Pancidrim have

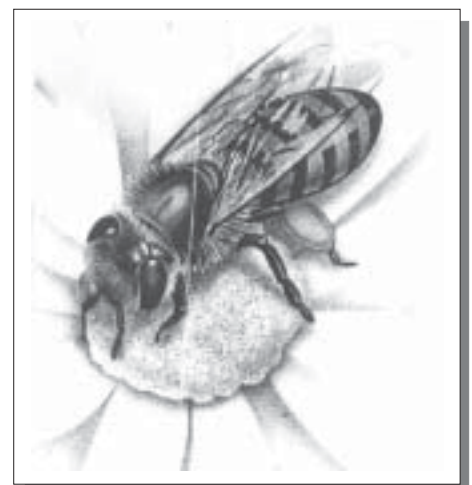


been found to bind irreversibly to lipoproteins and lectins on the surface of fungal membranes and rob the fungus of its ability to adhere to the host cell's surface. Surface adherence is a key step in the propagation and colonization of many fungal species.

Ellagic acid and its source, the pomegranate, have been found to inhibit *Escherichia coli*, *Pseudomonas aeruginosa*, *Entamoeba histolytica*, *Entamoeba invadens*, *Chrysomya albiceps*, *Helicobacter pylori* (implicated as a cause of peptic ulcers), dysentery bacteria and typhoid bacteria, worms including *Ascaris lumbricoides*, as well as various fungi and viruses including the genital herpes simplex virus II (HSV-2), the common cold and flu viruses and even HIV. In fact, pomegranate is very effective at killing HIV on contact (although it is not purported to be a cure for AIDS). In addition, Pancidrim pomegranate is proving to be a highly effective immune enhancer and anticarcinogen.

Bees make Pancidrim propolis from the brown sticky resin collected from oozing tree buds. They gather this at their hive and mix it with wax, saliva, and other ingredients. In this form, the substance is known as propolis. The bees use it to repair holes in the hive

and bond structures, as well as to prevent microorganism growth in the hive. Propolis caffeic acid has been shown to have antibacterial action against *Proteus vulgaris* and *Staphylococcus aureus*. Also, caffeic acid inhibits the growth of *Streptomyces scabies* and *Mycobacterium tuberculosis*. Ethanol extracts of propolis have been shown to have 100% lethal effects *in vitro* on *Trichomonas vaginalis* and *Toxoplasma gondii* after contact time of 24 hours. The flavonoids are a large group of substances (almost 3000) that, among other things, give plants and fruits their colors. Flavonoids are natural components of propolis. Research has demonstrated that the flavonoids can modify the body's response to microorganisms and enhance antiviral and anticarcinogenic activity. In addition, the



flavonoids are also potent antioxidants (see Spectrox™ monograph).

Pancidrim, as with all Wysong Nutrient Support Formulas, is designed to enhance and complement the lifestyle and dietary guidelines in the Wysong Optimal Health Program and the Wysong Foundation Formula supplements, which should be taken routinely. Taken alone, Pancidrim will exert benefit, but these benefits will be greatly enhanced by the synergy of using it in conjunction with these other Wysong designed programs.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

PANCIDRIM™ SCIENTIFIC REFERENCES

Acto Microbiol Bulg. 17:79-80. 1985.

Adetumbi MA, et al. *Allium sativum* (garlic) – A natural antibiotic. *Med Hypothesis.* 12:227-37. 1983.

Austin FG. *Schistosoma mansoni* chemoprophylaxis with dietary lapachol. *Am J Trop Med Hygiene.* 23:412-419. 1974.

Ball EG, et al. The inhibitory action of naphthoquinones on respiratory processes. *J Biol Chem.* 168:257-70. 1947.

Bhargava UC. Pharmacology of ellagic acid from black walnut. *Dissertation Abstracts B.* 29(1):294-5. 1967.

Bhargava UC, et al. Antagonistic effect of ellagic acid on histamine liberators. *Proc Soc Experimental Biol Med.* 131(4):1342-5. 1969.

Butler GL, et al. "Dietary effects of tannins in plant flavonoids." From *Biology and Medicine.* Alan R. Liss, Inc. NY. Page 141. 1988.

Chung JG. Inhibitory actions of ellagic acid on growth and arylamine N-acetyltransferase activity in strains of *Helicobacter pylori* from peptic ulcer patients. *Microbios.* 93(375):115-27. 1998.

Chung Kuo Chun Yao Tsa Chih. 16(18):481-2, 512. 1991.

Cismarik J, et al. Examination of the chemical composition of propolis. I. Isolation and identification of the 3,4-dihydroxycinnamic acid (caffeic acid) from propolis. *Experimentia.* 26:713. 1970.

Constantinou A, et al. The dietary anticancer agent ellagic acid is a potent inhibitor of DNA topoisomerases *in vitro.* *Nutr Cancer.* 23(2):121-30. 1995.

De M, et al. Antimicrobial screening of some Indian spices. *Phytother Res.* 13(7):616-8. 1999.

DeLima OG, et al. Primeiras observacoes sobre a acao antimicrobiana du lapachol. *Anais da Sociedade de Biologica de Pernambuco.* XIV:129-35. 1956.

Dudchenko, et al. 1987.

Elnima EI, et al. The antimicrobial activity of garlic and onion extracts. *Pharmazie.* 38:747-8. 1983.

Farnet CM, et al. Human immunodeficiency virus Type 1 cDNA integration: New aromatic hydroxylated inhibitors and studies of the inhibition mechanism. *Antimicrob Agents Chemother.* 42(9):2245-53. 1998.

Fleischauer AT, et al. Garlic consumption and cancer prevention: Meta-analyses of colorectal and stomach cancers. *Am J Clin Nutr.* 72(4):1047-52. 2000.

PANCIDRIM™ SCIENTIFIC REFERENCES

- Fly LB, et al. Tests of *Aloe vera* for antibiotic activity. *Econ Botany*. 17:46-8. 1963.
- Gershon H, et al. Fungitoxicity of 1,4-naphthoquinone to *Candida albicans* and *Trichophyton mentagrophytes*. *Can J Microbiol*. 21:1317-21. 1975.
- Ghannoum MA. Studies on the anticandidal mode of action of *Allium sativum* (garlic). *J Gen Microbiol*. 134:2917-24. 1988.
- Havsteen B. Flavonoids, a class of natural products of high pharmaceutical potency. *Biochem Pharmacol*. 32:1141-8. 1983.
- Hegggers JP, et al. Dermaide aloe/*Aloe vera* gel: Comparison of the antimicrobial effects. *J Am Med Techn*. 41:293-4. 1979.
- J Ethnopharmacol*. 35(1):77-82. 1991.
- Kahlon JB, et al. Inhibition of AIDS virus replication by acemannan *in vitro*. *Mol Biother*. 3:214-23. 1991.
- Kahlon JB, et al. *In vitro* evaluation of the synergistic antiviral effects of acemannan in combination with azidothymidine and acyclovir. *Mol Biother*. 3:127-35. 1991.
- Kaleysa RR. Screening of indigenous plants for anthelmintic action against *Ascaris lubricoides*. *Ind J Physiol Pharmacol*. 19:47-9. 1975.
- Kemp MC, et al. *In vitro* evaluation of the antiviral effects of acemannan on the replication and pathogenesis of HIV-1 and other enveloped viruses: Modification of the processing of glycoprotein precursors. *Antiviral Research Suppl*. 1:83. 1990.
- Kuhnau J. The flavonoids: A class of semi-essential food components: Their role in human nutrition. *Wld Rev Nutr Diet*. 24:117-91. 1976.
- Lagrotta M, et al. Antiviral activity of lapachol. *Rev Microbiol*. 14:21-6. 1983.
- Linhares MIS, et al. Estudo sobre o efeito de substancias antibioticas obtidas de *Streptomyces* e veetias superiores sobre o Herpesvirus hominis. *Revista Instituto Antibioticos, Recife*. 15:25-32. 1975.
- Loarca-Piña G, et al. "Inhibitory effect of ellagic acid on aflatoxin B1 and aflatoxin M1 mutagenicity in the *Salmonella* microsusension assay." Department of Environmental Toxicology, University of California, Davis, CA.
- Lopes JN, et al. *In vitro* and *in vivo* evaluation of the toxicity of 1,4-naphthoquinone and 1,2-naphthoquinone derivatives against *Trypanosoma cruzi*. *Ann Trop Med Parasit*. 72:523-31. 1978.
- Lorenzetti LJ, et al. Bacteriostatic property of *Aloe vera*. *J Pharm Sci*. 53:1287. 1964.
- Marston A, et al. "Antifungal, molluscicidal and cytotoxic compound from plants used in traditional medicine." From Biologically Active Natural Products. Oxford Science Publishers. 1989.
- Middleton E. The flavonoids. *Trends in Pharmaceut Sci*. 5:335-8. 1984.
- Mizuno T, et al. Inhibitory effect of tannic acid sulfate and related sulfates on infectivity, cytopathic effect, and giant cell formation of human immunodeficiency virus. *Planta Med*. 58(6):535-9. 1992.
- Moore GS, et al. The fungicidal and fungistatic effects of an aqueous garlic extract on medically important yeast-like fungi. *Mycologica*. 69:341-8. 1977.
- Morsy TA, et al. The larvicidal activity of solvent extracts of three medicinal plants against third instar larvae of *Chrysomya albiceps*. *J Egypt Soc Parasitol*. 28(3):699-709. 1998.
- Myint SM. Leicester University, England. 1996.
- Nai-Lan G, et al. Demonstrations of the antiviral activity of garlic extract against human cytomegalovirus *in vitro*. *Chin Med J*. 106:93-6. 1993.
- Ogata T, et al. HIV-1 reverse transcriptase inhibitor from *Phyllanthus niruri*. *AIDS Res Hum Retroviruses*. 8(11):1937-44. 1992.
- Otolaryngol Pol*. 43(3):180-4. 1989.
- Pareddy SR, et al. Does garlic have useful medicinal purposes? *Hosp Pharm Rep*. 8:27. 1993.
- Prasad G, et al. Efficacy of garlic (*Allium sativum*) against experimental candidiasis in chicks. *Br Vet J*. 136:448-51. 1980.
- Rao C, et al. Effect of caffeic acid esters on carcinogen-induced mutagenicity and human colon adenocarcinoma cell growth. *Infect Dis*. 1271:392. 1994.
- Renis H. *In vitro* antiviral activity of calcium elenolate. *Antimicrobial Agents and Chemotherapy*. 9:196. 1969.
- Schuerch AR, et al. b-Lapachone, and inhibitor of oncoronavirus reverse transcriptase and eukaryotic DNA polymerase- α : Inhibitory effect, thiol dependency and specificity. *Eur J Biochem*. 84:197-205. 1978.
- Segura JJ, et al. Growth inhibition of *Entamoeba histolytica* and *E. invadens* produced by pomegranate root (*Punica granatum L.*). *Arch Invest Med (Mex)*. 21(3):235-9. 1990.
- Sharma VD, et al. Antibacterial property of *Allium sativum* Linn.: *In vivo* and *in vitro* studies. *Ind J Exp Biol*. 15:566-8. 1977.
- Shoji S, et al. Allyl compounds selectively killed human immunodeficiency virus (Type-1) [R3] infected cells. *Biochem Biophys Res Commun*. 194:610-21. 1973.
- Soret MG. Antiviral activity of calcium elenolate on parainfluenza infection of hamsters. *Antimicrobial Agents and Chemotherapy*. 9:160-6. 1969.
- Starzyk J, et al. Biological properties and clinical applications of propolis. II. Studies on the antiprotozoan activity of ethanol extract of propolis. *Arzneim Forsch Drug Res*. 27:1198-9. 1977.
- Stewart G. Nottingham University, England. 1996.
- Stoner, et al. Polyphenols as cancer chemopreventive agents. *J Cell Biochem Suppl*. 220:169-80. 1995.
- Take Y, et al. Comparative studies of the inhibitory properties of antibiotics on human immunodeficiency virus and avian myeloblastosis virus transcriptases and cellular DNA polymerases. *J Antibiot (Tokyo)*. 42(1):107-15. 1989.
- Tassou C, et al. Effect of phenolic compounds and oleuropein on the germination of *Bacillus cereus* T spores. *J Appl Biochem*. 13:231-237. 1991.
- Thomas-Barberan FA, et al. "Antifungal flavonoids." From Biology and Medicine. Alan R. Liss, Inc. NY. 1988.
- Tranter HS, et al. The effect of olive phenolic compound oleuropein on growth and enterotoxin production of *Staphylococcus aureus*. *Biotech Appl Biochem*. 74:253-9. 1993.
- Vahora SB, et al. Medicinal uses of common Indian vegetables. *Plant Med*. 23:381-93. 1973.
- Visioli F, et al. Oleuropein protects low density lipoprotein from oxidation. *Life Sciences*. 55:1965-71. 1994.
- Weber ND, et al. *In vitro* virucidal effects of *Allium sativum* (garlic) extract and compounds. *Planta Med*. 58:417-23. 1992.