



Dr. Z Proudly Presents

WHAT ARE FREE RADICALS ?

Many medical and scientific researchers have become increasingly concerned that the presence of uncontrolled free radicals in the body is the direct cause of a number of health problems so notably on the increase. The startling fact that almost no one has understood until now is that along with the health-building processes we have going on within our bodies, we also have millions of potentially deadly weapons within the cells and fluids inside our bodies. These "weapons" are "loose cannon" molecules which have come to be known as free radicals and which are making us sick, cause us to age, and eventually kill us. Just what are free radicals? Simply stated, a free radical is an atom or molecule with an unpaired electron. Unpaired electrons make for very unstable, highly reactive atoms and/or molecules. Paired electrons, by the way of contrast, are the characteristic of a far more stable state. Researcher and writer Michael Dye explains it this way:

"This is a very hazardous, unnatural and unstable state, because electrons normally come in pairs. This odd, unpaired electron in a free radical causes it to collide with other molecules so it can steal an electron from them, which changes the structure of these other molecules and causes them to also become free

radicals. This can create a self-perpetuating chain reaction in which the structure of millions of molecules are altered in a matter of nanoseconds(a nanosecond is a billionth of a second) reeking havoc with our DNA, protein molecules, enzymes and cells."

There is an ongoing, potentially deadly battle which is being waged in our bodies every second of our lives, in which billions of free radicals are out to destroy our cells and alter our genetic material. According to Dr. Carroll E. Cross (University of California, Davis School of Medicine, Davis, California), free radicals are "capable of reversibly or irreversibly damaging compounds of all biochemical classes, including nucleic acids, protein and free amino acids, lipids and lipoproteins, carbohydrates, and connective tissue macromolecules. These species may (also) have an impact on such cell activities as membrane function, metabolism, and gene expression." It is now recognized that free radicals are contributing causes to more than 60 diseases.

Here Are Just A Few Of The Many Diseases And Disorders In Which Free Radicals Have Been Implicated.

Age spots - Aging - Allergies - Alzheimer's disease - Angina - Arthritis - Asthma - Atherosclerosis - Attention Deficit Disorder - Bleeding Gums - Internal Bleeding - Bruises - Cancer - Cataracts - Circulation problems - Cirrhosis - Cold Feet - Cold Fingers - Diabetes, type II - Dry Skin - Edema - Fatigue - Hay Fever - Heart Attacks - Hemorrhoids - Hypertension - Inflamed Tissues - Jet lag - Kidney Damage - Liver Damage - Male Sexual Inadequacy Memory Loss - Menstrual Disorders - Migraine Headaches - Multiple Sclerosis - Night Blindness - Parkinson's Disease - Phlebitis - Poor Circulation - Prostrate Problems - Psoriasis - Respiratory problems - Retinopathy - Rheumatism - Senility - Skin cancers - Skin Problems - Strokes - Stress Damage - Swollen Joints and Limbs - Varicose Veins - Wrinkling of the Skin and the list could go on and on.

So how do these free-radicals get into our bodies in the first place? From within, as the natural by-products of ongoing biochemical reactions occurring in normal

metabolic functions, in the detoxification process and in the immune system defense. From without, free radicals (better yet free radical generating substances) can be found in the food we eat, in our water supplies (especially after chemicals and pollutants have entered into them), drugs and medicines we ingest, and the air we breath. Our environment contributes immensely to the spread of free radicals, as do processes like drugs, radiation, pesticides, air pollutants, solvents, fried foods, alcohol, tobacco smoke, etc.--- things most of us are exposed to all the time.

Free radical scavengers (anti-oxidants) are key elements in the defense system which the body uses in order to neutralize the activity of these dangerous and, over the long-term, deadly free radical enemies. Vitamin E, Vitamin C, beta-Carotene and Selenium, among their other nutritional benefits, have strong anti-oxidant properties. We assume that you are already quite familiar with these important nutrients and take them on a regular basis.

Our bodies do have a defense system against free radicals, however, which employs specialized substances called anti-oxidants. Antioxidants work primarily by donating or "sacrificing" an electron to the free-radical, which then becomes paired with the formerly unpaired electron, thereby stabilizing the free-radical. Inside the cells themselves, antioxidant defense is provided largely by specific enzymes such as superoxide dismutase (SOD), catalase and glutathione peroxidase. Outside the cells, in the blood plasma, synovial fluids (found in the joints---Ed.) and other fluids of the body, SOD activities are very low and catalase and glutathione peroxidase are essentially absent. Therefore, other anti-oxidants must be marshalled by the body to deal with the free-radicals which are found in the extracellular fluids. Although the body will produce anti-oxidant defenses in the form of transferrin-lactoferrin, ceruloplasmin, albumin, haptoglobin-hemopexin, urate, etc.. it also makes use of nutrients and minerals, such as the well known vitamins E, C and beta-Carotene and the minerals selenium and zinc. But the best yet to be known are pycnogenols, now understood to be the most important, all natural antioxidant protection known to man.

Proanthens- Powerful, new Free-Radical Scavenger

Though Proanthens are new to most of us here in the U.S., in many other countries--Singapore, Korea, France, Finland, Holland, Germany, Italy, Argentina and Switzerland, for example-- it has been safely taken and its wonderful properties have been appreciated for years. Proanthens were originally introduced in Europe. It has been studied since 1953. Millions and millions of capsules and tablets have been consumed there for decades with no reports of side effects. What's more, no negative side effects have been found to effect the digestive, liver, kidney, blood or skin functions, even after Proanthens had been ingested for prolonged periods of time. Researchers have concluded that pycnogens are non-toxic, non-mutagenic, non-carcinogenic, non-antigenic and non-teratogenic (teratogenesis has to do with birth affects).

Here are just a few reasons why Proanthens have been called the super-protector nutrient:

Because they are such powerful free-radical scavengers (anti-oxidants), Proanthens have been shown to reduce the risk of a number of serious diseases including heart disease and cancer. They reduce atherosclerotic plaque which forms after blood cholesterol has been oxidized. Unlike many other nutritional anti-oxidants, Proanthens cross the blood brain barrier to provide direct protection to the central nervous system, giving this remarkable substance an important, possible role to play in the treatment of diseases and disorders involving mental deterioration.

Because of its activity against loss of collagen elasticity, Proanthocyanidins are a good anti-aging remedy. They can be absorbed through the skin and fixed in the dermis (the fibrous inner layer of the skin), so they may soon be incorporated into many skin creams. Many women take proanthocyanidins as a kind of oral cosmetic. They want to fight wrinkles before they begin. They expect them to help keep their skin elastic, smooth and more wrinkle-free by restoring the skin's collagen and protecting it from free-radical attack and enzymatic degradation. Proanthocyanidins restore elasticity and smoothness to the skin and help protect against and stimulate the healing of psoriasis, age spots, sun damage and skin cancers.

For some of the same reasons, Proanthocyanidins have been shown to significantly inhibit the incidence of edema, because they are so easily absorbed. Because Proanthocyanidins can act as a strengthening agent for collagen, they can protect against and help heal varicose veins. They work like the weave in fabric, hooking up with collagen fibers and creating cross-linking between them.

Proanthocyanidins have also been reported to give significant relief to such serious conditions as Multiple Sclerosis, probably much for the same reasons as their ability to help restore and provide elasticity to connective tissues.

Proanthocyanidins help alleviate the pain of arthritis, inflammation and joint pain.

They strengthen blood vessels, capillaries, veins and arteries, and help keep red blood cell membranes flexible.

Proanthocyanidins maintain proper capillary permeability which curbs bruising, severity of sports injuries, and risk of phlebitis. They have a potent anti-inflammatory effect due to their free-radical scavenger potential. They help combat asthma, allergies, hay fever and other respiratory problems.

Proanthocyanidins are highly effective as anti-oxidants against deterioration of the liver. And, since the liver is the main detoxifying, nutrient-assimilating and energy-producing organ of the body, people who take Proanthocyanidins report less fatigue and increased levels of energy.

People who suffer from diabetes and diabetic retinopathy, a manifestation of diabetes which results in capillary fragility and permeability, have seen it reversed by a treatment of Proanthensols so that the patient doesn't have to go through lengthy laser treatments, and with no harmful side effects. The same positive action has been noted in those who suffer from complications after cataract operations.

Proanthensols have been shown to inhibit the enzyme necessary for histamine production. They are thus far the only known inhibitors of histamine which do not inhibit other enzymes as well. Stress ulcers are formed by the release of histamine. Proanthensols reduce the incidence of such ulcers in test animals by 82 percent.

One of the most significant characteristics of Proanthensols is their ability to sequester and reduce the activity of iron in the body. (We intend to do a complete report on the serious health risks and problems associated with iron which become progressively more serious as we grow older (Geritol was a scam; most people have consumed far too much iron in the form of prescriptions, supplements and iron-fortified foods). For our purposes here, suffice to say that iron is involved as a type of catalyst in the generation of two of the most dangerous free-radicals: the hydroxyl radical and the super-oxide radical. So, not only are Proanthensols free-radical scavengers, they also act to prevent the production of free-radicals in the body!

In a nutshell, take another look at just a few of the many benefits associated with Proanthensols: Reduced risk of cancer; Reduced risk of cardio-vascular disease; Improved circulation; Reduction of inflammation (due to arthritis, phlebitis, sports injuries, etc.); Alleviation of edema (including that caused by PMS); Enhanced immune resistance; Improvement of the skin; Improvement in visual acuity; Faster healing; Less fatigue and more energy; plus much, much more.

"Free oxygen radicals, the main type formed in living organisms, have been implicated in recent studies in more than 60 disorders, including heart disease, cataracts and rheumatoid arthritis. And according to one of the leading theories

on aging, they contribute to the process of becoming old such as wrinkling of the skin, decline of kidney functions and increased susceptibility to autoimmune diseases."

Jane E. Brody - New York Times - April 26, 1988

"Oxygen in its deadly form" says University of South Alabama biochemist Joe McCord, "may, in fact, be the underlying mechanism for most disease..."

Joe McCord - Reprinted from Press Gazette - May 1986, Ellen Hale

"...cancer, Alzheimer's disease, Parkinson's disease, cataracts and a host of other disorders, it's thought that the formation of free radicals, poisonous compounds of oxygen that exist for only a fraction of a second, trigger a series of rapid cell-killing chemical reactions overpowering the body's defenses against them, and can be produced by sunlight, radiation, air pollution..."

The Wall Street Journal - Technology and Science - January 17, 1989

"Very few individuals, if any, reach their potential maximum life span; they die instead prematurely of a wide variety of diseases - the vast majority being of 'free radical' diseases."

Dr. Denham Harman - MD, Ph.D..., 1984

The Super-Antioxidant Proanthocyanidins, also known as PYCNOGENOL which is a trademark of Horphag Research Ltd., are the most effective defense against free-radical damage known to science.