Antioxidants

What are antioxidants?

Antioxidants are compounds whose primary function is to protect our body from the molecules known as free radicals (among others) that cause oxidative stress. This oxidative damage is responsible for a major degenerative diseases of the circulatory system, cardiovascular disease, cataracts, premature ageing and cancer, all of which are now the main cause of death in our society.

Free radicals disrupt the smooth functioning of the cells of our body, attacking key structural components therefore, such as lipids and proteins in the cell membrane, and even DNA enzymes responsible for the operation and refurbishment cell.

Where are antioxidants?

Of course our body has a system of antioxidant defenses represented primarily by certain enzymes. However, given the level of free radicals that form our bodies, it is essential to intake antioxidants in our diet. In nature, only plants are capable of synthesize various antioxidants, but not all plants synthesize antioxidant of the same type. Here arises the need to know the differences between the plant sources of antioxidants in our diet (fruits, vegetables, grains, etc.). Thus using the complementary effects that these sources present, it is possible prevents degenerative diseases.

Five a day (Five-a-day)

The campaign five a day that had begun the Ministry of Public Health in Chile and that is similar to what exists in the United States and the United Kingdom known as "Five-a-day" seeks to inform the public the importance of daily intake Five fruit of a different color. And why the color should be different? Because many of the compounds that have antioxidant properties are responsible for providing the color to the plants and fruits and therefore different colors provide additional antioxidant compounds in our diet.

Is it possible to get the antioxidant compounds from plants preserving all its properties?
We know that there are certain antioxidant compounds such as vitamin C, which are present in fruits such as oranges and lemons or as vitamin E present in leafy vegetables. Nowadays it is possible to acquire them in the market and allowing their intake as a source of antioxidants. These vitamins are usually not taken from their natural sources,

being artificially synthesized.

Nonetheless, today by modern techniques, it is possible to extract and preserve antioxidant compounds from fruits, vegetables, leaves, seeds, etc., preserving them in solid form (powder), so that the water disband, keeping all their antioxidant properties to the consumers. Such products with antioxidants obtained directly from natural sources, are now being sold in many pharmacies around the world, finding excerpts from sources such as grape seed, olive leaves, ginko biloba leaves, berries (blueberry, blackberry, strawberry, etc..), tomatoes (lycopene), among many others.

Today it is not only possible to find these powdery products in pharmacies. For the importance of the consumption of natural antioxidants in our diet, in the world day after day are more companies using these antioxidant sources in the production of foods, creating new products known as Functional Foods. Today the most important functional foods are juices, dairy products such as yogurt and various types of milk, breads and other products derived from the milling industry, and so on.

Additionally, given the beneficial properties against aging processes, these compounds are also used in the manufacture of creams, masks and lipsticks, in the cosmetics industry.

Families of antioxidant compounds

Within the natural compounds of plant origin with antioxidant action it is possible to find a variety of groups. However it is well known today that are the compounds belonging to the group of phenolic compounds known as polyphenols, the most important not only because the diversity of families that it is possible to find in the nature, but also in terms of their antioxidant activity. Besides, there is enough scientific evidence that has described the bioactive effect against specific degenerative diseases in humans of the phenolic compounds.

Families of phenolic compounds.

Flavonoids:

Within this group of compounds highlighted three main families:

-- **Anthocyanins:** are the compounds responsible for the color red and purple of many flowers, and besides of the color of red grapes, apples, plums and berries, such as strawberries, blackberries, blueberries, raspberries and maqui, among many other fruits.

-- **Flavonols:** in this group highlights compounds responsible for the color of yellow flowers and some fruits, being abundant in the skins of white and red grapes, apples, pears, peaches and in the flesh of most of the berries.

-- **Flavanols:** this group that owns the condensed tannins, are responsible for protection against various diseases in plants and seeds, been abundant in various species as vines and leaves as the tea.

TABLE OF ANTIOXIDANTS AND SOME FOOD OF ORIGIN

Ellagic acid: with antioxidant and haemostatic properties. In some countries it is used as a food supplement attributing antitumor properties. Is presented in fruits such as Pomegranate, Strawberry (Strawberry), Raspberry, Cherry, Grape, Kiwi, Apricot, etc.

Anthocyanins: are a group of water-soluble pigments flavonoids (glycosides) that are in solution in the vacuoles in plant cells of fruits, flowers, stems and leaves. Grapes, Cherries, Kiwis, Plums and all the berries are a rich source of these compounds.

Carotenoids: the alpha and beta carotenes are precursors of vitamin A and act as antioxidant nutrients. They are the only carotenoids that become appreciable amounts of vitamin A. Carrot, Tomato, Orange, Papaya, Lettuce and Spinach are good sources..

Catechins: Green tea according to the latest research is key for its high content of catechins and polyphenols, which act as antioxidants and activators of metabolism. Other important sources are cocoa, grapes and wine.

Isotiocianates: can suppress the growth of tumors by blocking enzymes. Broccoli, squash, mustard, turnips are good sources.

Isoflavones: relates as an ally against cardiovascular disease, osteoporosis and hormone-dependent cancers such as breast. Soybeans and their derivatives are very important sources. In much lesser amount: green tea, peas, lentils, chickpeas.

Licopen: responsible for the distinctive red color of tomatoes Tomato. This compound is very important against prostate cancer prevention.

Quercetin: is a potent antioxidant found in a variety of fruits and vegetables. Grapes, red onions, broccoli, grapefruit and apples, cherries, green tea, red wine and berries a rich natural sources.

Tannins: also very powerful to protect our arteries (moderate consumption of red wine). Red wine, grapes, berries, lentils.

Vitamin C and vitamin E: together are two classics very potent antioxidants. Kiwi fruit, citrus, pineapple, tomato, broccoli, peppers, spinach are good sources.

Scientific Evidence

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NABIOS, company's leading antioxidant extracts of natural origin, manufactures and markets products based on plant sources with varied contents standardized antioxidants

bioactive compounds, which can be used from capsules in the pharmaceutical industry, even as additives in the food industry and cosmetics .