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# Free Radicals and Antioxidants

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## Editorial Note

In the latest years, many researchers have been focusing on the field of free radical chemistry. The human body can generate Free radicals reactive nitrogen species, and reactive oxygen species by different endogenous systems, exposure to various physicochemical conditions, or sick states. For physiological activity, the balance between antioxidants and free radicals is critical., When the body's capacity to control free radicals is overwhelmed, oxidative stress occurs. As a result, free radicals wreak havoc on lipids, DNA, and proteins, resulting in a variety of human diseases. The use of an alternative supply of antioxidants will therefore aid in the management of oxidative stress. In recent research, synthetic antioxidants including butylated hydroxyanisole and butylated hydroxytoluene have been found to be toxic to human health. As a result, the quest for stable, nontoxic natural compounds with antioxidative activity has intensified in recent years. The current study summarizes the effects of free radicals on cells as well as the role of antioxidants as medicinal foods in the treatment of human diseases. in chemistry, any molecule that contains one or more unpaired electrons called a free radical. Usually, those electrons are in stable pairs; but, when unpaired, they make molecules highly reactive. The free radical normally try to take electrons from other molecules to reach a stable structure. This can lead to a devastating reaction chain that can finally to cell injury and death. Usually, the cell when gets damaged by free radicals contains unsaturated fatty acids in the cell membrane, proteins like enzymes and DNA and, the transporters of the ion membrane. As part of normal cell metabolism, regularly the body produced free radicals, especially by redox reactions involving oxygen. A minority of free radicals disappear from the body as part of a controlled inflammatory reaction with other free radicals by phagocytes, or most generally due to the antioxidant system actions.

Vitamin C is chemically known as ascorbic acid, and has six carbon atoms. The oxidized form of ascorbic acid is dehydroascorbic acid. Both types can act as reducing agents and antioxidants in the body. Vitamin D can be obtained from dehydroascorbic acid. When ascorbic acid serves as a donor to reducing equivalents, it produces in Vitamin C is one of a group of nutrients. Known as antioxidants. The consumption of diets is rich in these compounds such as citrus fruits, broccoli, and greens.

The oxidation of vitamin C to dehydroascorbic acid is reversible. The first line of protection is vitamin C, which scavenges free radicals until they reach the cell membrane. It boosts vitamin E's effectiveness. Since vitamin C is an effective Co-antioxidant in vitro for the regeneration of vitamin E from -Tocopheroxyl radicals, it can protect the membrane from peroxidation. Vitamin C is very important for the human body because it is acting to lower the risk of diseases heart and preventing oxidative damage to mitochondrial DNA. to preventing damaging the target molecule, the ascorbate has effective against superoxide anion, hydrogen peroxide, hydroxyl radical, and singlet oxygen.

Vitamin E is an antioxidant similar to vitamin C. it consists of a group that has a similar structure to compounds called α-tocopherol. Vitamin E blocks the breakdown by the oxidation of polyunsaturated fats and vitamin A. in addition, it is not toxic when being over dosage from it, like other fat-soluble vitamins.Vitamin E is one of a group of nutrients known as antioxidants. The consumption of diets is rich in these compounds such as meat, milk and vegetables. Albumin is synthesized in the liver at a rate that is determined by the amount of protein consumed in the diet. The rate is also subject to plasma-level feedback regulation. Albumin is produced in the liver at a rate that is influenced by dietary protein intake and is controlled by plasma levels in a feedback loop. The t 0.5 of albumin has been calculated to be between 15 and 19 days. Albumin has an impact on nearly all extracellular body fluids. Through excretion, the body lacks just a small amount of albumin. It is catabolized in various tissues and taken up by cells via pinocytosis. Intracellular proteolysis releases the constituent amino acids, which are then added to the body pool. These metallothioneins had been shown to have antioxidant effects under the different cases, which include radiation exposure, toxicity from anticancer drugs, for example, doxorubicin, and high oxidative stress conditions.

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