



# Importance and types of Antioxidants

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- Antioxidants are natural substances or synthetic that can help to delay cell damage or prevent. Diets high in vegetables and fruits, which are good sources of antioxidants, have been found to be healthy, research has not demonstrated that antioxidant supplements are preventing in disease. Vitamins E and C, carotenoids, and selenium including lycopene, beta-carotene, zeaxanthin, and lutein are all antioxidants. This fact sheet provides the basics of antioxidants, highlights what science has to say about antioxidants and health, and suggests more resources.

- Antioxidants are abundant in fruits and vegetables. There is strong evidence that eating a diet rich in vegetables and fruits is beneficial to one's health, and official US government policy encourages people to do so. It shows that people who eat more vegetables and fruits have lower risks of several diseases. However, it is unclear whether these findings are related to the amount of antioxidants in vegetables and fruits, other components of these foods, other factors in people's diets, or other lifestyle choices.

## **Importance**

Antioxidants are substances that could defend your cells against free radicals, which may play a role in heart disorder, cancer and different sicknesses. Free radicals are molecules produced when your body breaks down food or while you're exposed to tobacco smoke or radiation.

Antioxidants, consisting of nutrients C and E and carotenoids, may help protect cells from damage caused by free radicals. Other naturally occurring antioxidants include tannins, flavonoids, lignans and phenols. Plant-based foods are the best sources. These include whole grains, vegetables, fruits, seeds, nuts, spices, herbs and even cocoa.

- As an advantage fruits, vegetables and whole grains are high in antioxidants and are also typically high in fiber, low in saturated fat and cholesterol, and good sources of vitamins and minerals.
- Glutathione is the most effective among the antioxidants our body produces. It's a mixture of 3 amino acids; it tackles ageing through the intestines and circulatory system. It has strong anti-ageing properties, it protects cells, tissues and organs of the body and it continues to keep them young.

## **Types of antioxidants**

Antioxidants by their mechanism are divided into three types:

(1) Primary antioxidants: These essentially function as free radical terminators.

(2) Secondary antioxidants: These function by retarding chain initiation and it is also important preventive antioxidants.

(3) Tertiary antioxidants.

- **Primary antioxidants:** Primary-antioxidants are important antioxidant enzymes certainly produced by our body. These internal antioxidant enzymes serve as our body's most potent defense against free radicals and harmful inflammatory reactions. There are only 3 primary-antioxidants: Catalase (CAT), Glutathione Peroxidase (GPx) and SOD.

**Secondary antioxidants:** Secondary antioxidants frequently known as hydro peroxide decomposers, act to convert hydro peroxides into nonradical, nonreactive and thermally stable products. To yield synergistic stabilization effects they are often used in combination with primary antioxidants.

Glucose-6-phosphate dehydrogenase, Glutathione reductase, ubiquinone and glutathione-s-transferase, are the secondary antioxidants. Iron, copper, zinc, manganese and selenium also increase the antioxidant enzyme activities.



- **Tertiary oxidants:** Tertiary oxidants by repairing the oxidized molecules and there function takes place (some enzymes of DNA, proteolytic enzymes, etc.) through sources like consecutive antioxidants or dietary.

Thank you  
for attention