

Anthocyanins - description, benefits, effects on the body and the best sources

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Abstract. Pigments called anthocyanins are widespread in the plant world around us. They are dissolved in the cell sap of plants. Anthocyanins are easily extracted from plants that are blue, pink or red in color.

For example, red cabbage leaves, all kinds of berries and some herbs contain anthocyanin crystals. Moreover, the color of the crystals depends on the environment in which they are located.

For example, an acidic environment gives anthocyanins a deep red color. Alkali turns anthocyanin crystals blue. Well, in a neutral environment, they have a purple color.

Now, when you come to a grocery store, it will not be difficult for you to determine the acid-base balance of the vegetables and herbs you buy!

Key words: Anthocyanins, general characteristics, daily requirement, digestibility, beneficial properties, signs of deficiency, signs of excess

Anthocyanin-rich foods:

- Blackberry [1]
- Raspberry [2]
- Blueberry and blueberries [3]
- Cranberry
- Cherry [4]
- Irga
- Elder
- Blackcurrant [5]
- Dark grapes [6]
- Plum [7]
- Grenades [8]
- Eggplant [9]
- Basil of Yerevan [10]
- Red leaf lettuce
- Red cabbage

General characteristics of anthocyanins

Anthocyanins are plant pigments belonging to the group of glycosides. Their crystals are not associated with protoplasts (like chlorophyll), but are able to move freely in the intracellular fluid.

Anthocyanins often determine the color of flower petals, the color of fruits and autumn leaves. Their color varies depending on the pH of the cellular contents and can change during the process of fruit ripening, or as a result of autumn leaf fall.

Industrially, anthocyanins are extracted primarily from red cabbage or grape skins. In this way, red and purple dyes are obtained, which are then added to drinks, ice cream, yoghurts [11], sweets and other confectionery products.

On labels the presence of plant pigments is usually indicated as E-163. The presence of these components in ready-made food products and vitamins is not only not harmful, but also beneficial for the body, this is stated in the complete reference book of dietary supplements.

Daily requirement for anthocyanins

Nutritionists recommend consuming anthocyanins in an amount of 10-15 mg per day.

However, you should not go to extremes. Consumption of small amounts of vegetables and fruits containing anthocyanins can lead to a decrease in the body's defenses against cancer cells; excessive consumption can lead to allergic reactions of the body [12].

The need for anthocyanins increases:

- in areas with a lot of sunny days;
- in case of genetic predisposition to cancer;
- when working with high-frequency currents, as well as with ionizing radiation;
- people who actively use mobile communication services.

The need for anthocyanins is reduced:

- with individual intolerance to products containing anthocyanins;
- for various allergic reactions that occur after consuming such products.

Anthocyanin digestibility

Anthocyanins are highly soluble in water [13], and it is believed that they are absorbed by our body one hundred percent!

Beneficial properties of anthocyanins and their effect on the body

Anthocyanins are powerful antioxidants [14] that protect our body from free radicals. They have a unique ability to resist ultraviolet radiation and reduce the risk of cancer [15].

Thanks to anthocyanins, the aging process is slowed down [16] and some neurological diseases are treated. Anthocyanins are used to prevent and in complex therapy in the treatment of bacterial infections. Plant pigments also help prevent diabetes or reduce its effects.

Interaction with Essential Elements

Anthocyanins interact well with water and all compounds that can dissolve glycosides (plant substances that consist of carbohydrate and non-carbohydrate components).

Signs of anthocyanin deficiency in the body:

- depression [17];
- prostration;
- nervous exhaustion;
- decreased immunity [18] .

Signs of excess anthocyanins in the body

Not found at the moment.

Factors influencing the content of anthocyanins in the body

An important factor regulating the presence of anthocyanins in our body is the regular consumption of foods rich in these compounds.

Anthocyanins for beauty and health

To keep our skin velvety [19] and hair silky [20], nutritionists advise diversifying our diet with plant foods containing anthocyanins. At the same time, all organs will be protected from the adverse effects of the external environment, and we will be calmer and happier!

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