

ALMONDS

Geatest diversity of phytochemicals in a single food source

Reduces heart attacks, cardiovascular disease, cancer, osteoporosis, needed in pregnancy

High contnent of vitamin E. Magnesium. Folic acid in pregnancy.

Calcium. a valuable tool in preventing osteoporosis.

loaded with minerals like **magnesium, phosphorus and zinc**, as well as lots of healthy **fiber**.

Absolutely **no cholesterol**, you'll also get 35 percent of your daily allowance of **vitamin E**, that valuable antioxidant with so many cancer-fighting qualities. And most of the fat in almonds is monounsaturated

Vitamin E - Antioxydant

Antioxidants protect cells from the damaging effects of free radicals, which are molecules that contain an unshared electron. Free radicals damage cells and might contribute to the development of cardiovascular disease and cancer. Unshared electrons are highly energetic and react rapidly with oxygen to form reactive oxygen species (ROS). The body forms ROS endogenously when it converts food to energy, and antioxidants might protect cells from the damaging effects of ROS. The body is also exposed to free radicals from environmental exposures, such as cigarette smoke, air pollution, and ultraviolet radiation from the sun. ROS are part of signaling mechanisms among cells.

Vitamin E is a fat-soluble antioxidant that stops the production of ROS formed when fat undergoes oxidation. Scientists are investigating whether, by limiting free-radical production and possibly through other mechanisms, vitamin E might help prevent or delay the chronic diseases associated with free radicals.

In addition to its activities as an antioxidant, vitamin E is involved in immune function and, as shown primarily by *in vitro* studies of cells, cell signaling, regulation of gene expression, and other metabolic processes. Alpha-tocopherol inhibits the activity of protein kinase C, an enzyme involved in cell proliferation and differentiation in smooth muscle cells, platelets, and monocytes. Vitamin-E–replete endothelial cells lining the interior surface of blood vessels are better able to resist blood-cell components adhering to this surface. Vitamin E also increases the expression of two enzymes that suppress arachidonic acid metabolism, thereby increasing the release of prostacyclin from the endothelium, which, in turn, dilates blood vessels and inhibits platelet aggregation.

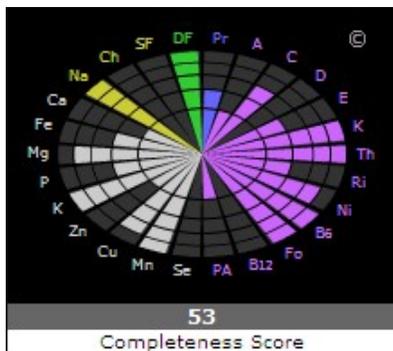
Nutrient Balance Indicator™

Very few foods contain a complete array of essential nutrients; therefore, it's important to eat a variety of foods to fulfill our nutritional needs. The Nutrient Balance Indicator™ lets you see at a glance the nutritional strengths and weaknesses of a food, and can help you construct meals that are more nutritionally balanced.

Each spoke in the wheel represents a different nutrient. The spoke for dietary fiber is colored green, protein is blue, vitamins are purple, minerals are white, and yellow represents a group of commonly overconsumed nutrients—saturated fat, cholesterol, and sodium. The density of each nutrient is indicated by how far that spoke extends towards the edge of the graph. A Completeness Score™ between 0 and 100 summarizes how complete the food is with respect to 23 essential nutrients.

How to Use the Nutrient Balance Indicator

The main purpose of the Nutrient Balance Indicator™ is to visually summarize a food's nutritional strengths and weaknesses. For example, in the above graphic, you can see that this food is a poor source of vitamin D, vitamin B12, and selenium but that the food does **contain abundant amounts of dietary fiber, vitamin K, thiamin, vitamin B6, folate, manganese, and potassium. It is also high in sodium.** This information can help you choose other foods that complement the strengths and weaknesses of this food and create a nutritionally complete diet.



Protein Quality

Protein Quality is dependent on having all the essential amino acids in the proper proportions. If one or more amino acids are not present in sufficient amounts, the protein in a food is considered incomplete. Diets that are very low in protein or that are very restrictive in the types of protein consumed (e.g., vegetarian diets) may not provide complete protein.

Each spoke on the Protein Quality Indicator™ represents one of the nine essential amino acids. The size of each spoke is proportionate to the percentage of the optimal level for that amino acid. The amino acid with the lowest level is considered the "limiting" amino acid for that food and determines the overall Amino Acid Score.

How to Use the Protein Quality Indicator™

If the Amino Acid Score is less than 100, a link is provided to "complementary" sources of protein. These are foods that are higher in the limiting amino acid(s) and/or lower in the amino acids most prevalent in the food. By combining complementary proteins, you may be able to increase the overall quality of the protein you consume.



Optimal levels for amino acids are based on the following amino acid profile recommended by the Institute of Medicine's Food and Nutrition Board:

Essential Amino Acid	mg/g of Protein
Tryptophan	7
Threonine	27
Isoleucine	25
Leucine	55
Lysine	51
Methionine+Cystine	25
Phenylalanine+Tyrosine	47
Valine	32
Histidine	18

Note: The Amino Acid Score calculated by Nutrition Data is a basic measure of protein quality, but it has not been adjusted for the digestibility of the protein. Protein digestibility depends on the type of protein (animal proteins are more digestible than plant proteins), as well as the method in which the food was prepared. If digestibility is accounted for, the Amino Acid Score will be somewhat lower than stated.

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