



Solving Solubility with Science

# Common Food Science & Nutritional Supplement Terms and Acronyms

In this brief we have compiled a glossary of common terms used in food science and the discussion of nutritional supplements.

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## A .

**Amino Acid:** Organic compounds that combine to form proteins and are used in supplements to aid in muscle repair and growth.

**Antioxidant-Rich Foods:** Foods high in antioxidants, like berries, dark chocolate, pecans, and artichokes, which help combat oxidative stress in the body.

**Antioxidant:** Substances that may prevent or slow damage to cells caused by reactive oxygen and reactive nitrogen species, unstable molecules that the body produces as a reaction to environmental and other pressures.

**Ashwagandha:** An adaptogenic botanical used traditionally to help the body maintain resilience when presented with physiological and psychological stress.

## B .

**BCAA (Branched-Chain Amino Acid):** Essential amino acids leucine, isoleucine, and valine, commonly used in supplements to aid muscle recovery.

**BCAAs (Branched-Chain Amino Acids):** Essential amino acids leucine, isoleucine, and valine, popular in the fitness community to aid muscle recovery.

**Bioavailability:** The proportion of a nutrient or bioactive ingredient that is absorbed from the gastrointestinal tract and is available for utilization or storage.

## C .

**Calcium:** An essential mineral, crucial for maintaining bone health and strength.

**Calorie:** A unit of energy in food. Technically, a calorie is the amount of energy needed to raise the temperature of 1 gram of water by 1 degree Celsius.

**Carbohydrate:** One of the three macronutrients, carbohydrates are the sugars, starches, and fibers found in fruits, grains, vegetables, and milk products.

**Casein:** A slow-digesting dairy protein that is used in supplements, often taken before bed to aid with muscle recovery.

**Chondroitin:** Frequently used in combination with glucosamine, chondroitin is another supplement for joint health and is believed to support joint health and mobility.

**CLA (Conjugated Linoleic Acid):** A type of fatty acid found in meat and dairy that is popular as a weight management supplement.

**Coenzyme Q10 (CoQ10):** A substance similar to a vitamin, found in every cell of the body, important for energy production and antioxidant protection.

**Collagen:** A protein that is vital for skin health and is also taken for joint support.

**Creatine:** A substance that is found naturally in muscle cells, which helps your muscles produce energy during heavy lifting or high-intensity exercise.

## D .

**Dietary Fiber:** A type of carbohydrate that the body can't digest, found in plant-based foods. It helps regulate the body's use of sugars, helping to keep hunger and blood sugar in check.

## E .

**Electrolyte:** Minerals found in the human body that have an electric charge and are important for hydration, muscle function, and pH balance.

**Emulsifier:** An agent that forms or preserves a mixture of substances normally incapable of being mixed (e.g., oil and water).

**Energy-Dense Foods:** Foods that are high in calories relative to their weight, often containing high levels of fat, sugar, or both.

**Enriched Foods:** Foods that have had nutrients replaced that were lost during food processing. An example is bread enriched with B vitamins.

**Enzyme:** Proteins that act as biological catalysts, speeding up chemical reactions, including those in food digestion.

**F .**

**Fat:** A natural oily or greasy substance occurring in animal bodies, especially when deposited as a layer under the skin or around certain organs. Fats are one of the three main macronutrient groups.

**Fermentation:** A process in which microorganisms, such as yeast and bacteria, convert carbohydrates into alcohol or acids.

**Fiber Supplements:** Such as psyllium, inulin, or methylcellulose, used to improve digestive health.

**Fish Oil:** A rich source of omega-3 fatty acids, important for heart health, brain function, and anti-inflammatory properties.

**Food Additive:** Any substance added to food to enhance its flavor, appearance, functionality, or preservation properties.

**Food Fortification:** The process of adding nutrients to foods to enhance their nutritional content.

**Food Science:** The study of the physical, biological, and chemical makeup of food and the concepts underlying food processing and preservation.

**Fortified Foods:** Foods to which extra nutrients have been added. Examples include milk fortified with vitamin D and orange juice fortified with calcium.

**Functional Beverages:** Drinks typically enhanced with nutrients, supplements, or other health-promoting ingredients, like energy drinks, fortified waters, and herbal teas.

**Functional Foods:** Foods that have a potentially positive effect on health beyond basic nutrition. They can promote optimal health and help reduce the risk of disease.

**G .**

**Ginkgo Biloba:** A botanical used for cognitive health, often regarded as an adaptogen and nootropic.

**Ginseng:** A botanical believed to boost energy and promote relaxation. **Glucosamine:** Often used for joint

health, this supplement is believed to help with cartilage formation and repair.

**Glutamine:** An amino acid used in the biosynthesis of proteins, often taken as a supplement for muscle recovery.

**Glycemic Index:** A number associated with the carbohydrates in a particular type of food that indicates the magnitude of the effect on an individual's blood glucose (blood sugar) level.

**GMO (Genetically Modified Organism):** An organism whose genome has been altered by the techniques of genetic engineering so that its DNA contains one or more genes not normally found there. The U.S. FDA refers to GMO products as “genetically-engineered” organisms.

**Green Tea Extract:** Known for its antioxidant properties, it is often used for weight management and overall health.

**H .**

**Herbal Supplement:** A type of dietary supplement that contains one or more botanicals.

**I .**

**Iron:** An essential mineral vital for the production of hemoglobin, a protein needed to transport oxygen in the blood.

**L .**

**L-Carnitine:** A nutrient and dietary supplement that plays a crucial role in the production of energy by transporting fatty acids into mitochondria.

**M .**

**Macronutrient:** A type of food (e.g., fat, protein, carbohydrate) required in large amounts in the diet.

**Magnesium:** A mineral involved in over 300 biochemical reactions in the body, including muscle and nerve function, blood glucose control, and blood pressure regulation.

**Meal Replacements:** Products intended to substitute for a solid food meal, usually in the form of a bar or a drink, containing controlled quantities of calories and nutrients.

**Melatonin:** A hormone taken as a supplement to help regulate sleep patterns.

**Micronization:** A food processing technique where ingredients are reduced to a fine powder, potentially increasing their bioavailability and absorption.

**Micronutrient:** Vitamins and minerals that organisms require in small amounts for proper functioning.

**Mineral:** Inorganic elements present in the human body and necessary to its functioning, often taken as dietary supplements.

**Multivitamin:** A supplement containing a combination of vitamins, and often minerals, intended to provide a broad range of daily nutrients.

## N .

**Natural Supplement:** Supplements derived from food sources or that are made from plant or animal products.

**Nutraceutical:** A fortified food or dietary supplement that provides health benefits in addition to its basic nutritional value.

**Nutrient-Dense Foods:** Foods that are high in nutrients but low in calories. Examples include lean meats, dairy products, fruits, and vegetables.

## O .

**Omega-3 Fatty Acids:** Essential fatty acids believed to be important for cardiovascular health and commonly found in fish oil supplements.

**Omega-3 Rich Foods:** Foods high in omega-3 fatty acids, such as fatty fish (salmon, mackerel, sardines), flaxseeds, chia seeds, and walnuts, known for their anti-inflammatory properties and cardiovascular benefits.

**Organic:** Refers to the way agricultural products are grown and processed, with specific requirements that must be met and maintained in order for products to be labeled as such.

## P .

**Pasteurization:** A process of heating food, usually liquid, to a specific temperature for a definite length of time, and then cooling it immediately to inhibit microbial growth in food.

**pH:** A measure of acidity or alkalinity of water-based liquids. A pH of 7 is neutral, below 7 is acidic, and above 7 is alkaline.

**Phytonutrient:** Bioactive plant-derived compounds associated with positive health effects. They are found in fruits, vegetables, grains, and other plant foods.

**Plant Sterols and Stanols:** Substances found in plants that help block the absorption of cholesterol. They are often added to products like margarine, orange juice, and yogurt drinks.

**Polyphenols:** A type of antioxidant found in a variety of foods including tea, coffee, red wine, blueberries, olives, and dark chocolate.

**Prebiotic Foods:** Foods that contain dietary fiber that feeds the friendly bacteria in the gut. Examples include garlic, onions, leeks, asparagus, and bananas.

**Prebiotic:** A type of fiber that the human body cannot digest and serves as food for probiotics, the beneficial bacteria in the gut.

**Preservative:** A substance used to preserve foodstuffs, either by inhibiting the growth of microorganisms or by protecting the physical condition of the food.

**Probiotic Foods:** Foods that contain beneficial bacteria that can improve gut health. Examples include yogurt, kefir, sauerkraut, tempeh, and kimchi.

**Probiotic:** Live microorganisms which, when administered in adequate amounts, confer a health benefit on the host.

**Probiotics:** Supplements containing beneficial bacteria or yeasts to support gut health.

**Protein Powders:** Whey, soy, pea, or rice are common protein powders used as supplements to aid muscle growth, weight loss, and vegan or vegetarian diets.

**Protein:** A macronutrient that is essential to building muscle mass. It is commonly found in animal products, but is also present in vegetarian-friendly sources, such as nuts and legumes.

S .

**Saturated Fat:** A class of fat containing fatty acid molecules without double bonds that is currently considered less healthy than unsaturated fat. Metabolic differences exist amongst saturated fats of differing lengths, e.g. medium-chain vs. long-chain.

**Soy Protein:** A protein derived from soybeans, used as a supplement and as a meat substitute in various food products.

**Spirulina:** A type of blue-green algae that is popular as a supplement due to its rich nutrient content and health benefits.

**Superfoods:** A non-medical term popularized in the media to refer to foods that are nutrient powerhouses, packed with large doses of antioxidants, polyphenols, vitamins, and minerals. Examples include acai berries, blueberries, avocados, and kale.

**Supplement:** A product taken orally that contains one or more ingredients (like vitamins or amino acids) that are intended to supplement one's diet and are not considered food.

**Synthetic Supplement:** Supplements manufactured using chemical processes, as opposed to those derived from natural sources.

T .

**Trans Fat:** A type of unsaturated fat that is uncommon in nature but can be created artificially and is generally considered harmful to health.

**Turmeric/Curcumin:** Known for its inflammatory-balancing properties, curcumin is the active ingredient in turmeric and is commonly taken for joint support.

U .

**Unsaturated Fat:** A fat or fatty acid in which there is at least one double bond within the fatty acid chain. They are currently considered healthier than saturated fats and are found in vegetable oils, nuts, seeds, and fish. Omega-3 fats are believed to confer greater health benefit than omega-6 fats, particularly because modern diets generally contain more omega-6 fats than omega-3 fats and many omega-6 fats are proinflammatory.

V .

**Vitamin B12:** A water-soluble vitamin involved in the metabolism of every cell of the human body and that is important for brain function and DNA synthesis.

**Vitamin C:** An essential vitamin known for its antioxidant properties and its role in immune function.

**Vitamin D:** A fat-soluble vitamin that is important for maintaining the health of bones and teeth, and that also supports the health of the immune system, brain, and nervous system.

**Vitamin:** Organic compounds that are essential for normal growth and nutrition and are required in small quantities in the diet because they cannot be synthesized by the body.

W .

**Whey Protein:** A high-quality and easily digestible protein naturally found in dairy products, commonly used in supplement form for muscle building and repair.

**Whole Grains:** Grains that contain all essential parts and naturally occurring nutrients of the entire grain seed. Examples include whole wheat, brown rice, oats, and quinoa. **Zinc:** A mineral important for immune function, wound healing, DNA synthesis, and cell division.

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