

## Food as medicine: Nutraceuticals and functional foods.

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### Description

Nutraceutical products can be considered non-specific biological therapies used to promote general well-being, control symptoms, and prevent malignant processes. Nutraceuticals are products derived from food sources that provide both nutrition and medicinal benefits. Under the umbrella of “dietary supplements,” nutraceuticals are any whole food not an isolated nutrient or vitamin that is concentrated and repackaged in a non-food format like a capsule. A good example might be garlic capsules. Nutraceutical products can be classified on the basis of their natural sources, pharmacological conditions, as well as chemical constitution of the products. Most often, nutraceuticals are grouped into four categories that include dietary supplements, functional food, medicinal food, and pharmaceuticals. Essentially, a nutraceutical is a substance that has a physiological benefit or provides protection from chronic disease. Unfortunately, the definition of nutraceuticals varies from country to country depending on how they are categorized and regulated.

### Discussion

The main difference between functional foods and nutraceuticals is that functional foods are the food with bioactive compounds such as beta-carotene, lycopene, resveratrol, ferulic acid, etc. whereas nutraceuticals are the bioactive compounds found in fortified food, dietary supplements or herbal products. Furthermore, functional foods have naturally-occurring bioactive compounds in the food while nutraceuticals can come as pills, capsules or liquids. Under the umbrella of “dietary supplements,” nutraceuticals are any whole food – not an isolated nutrient or vitamin – that is concentrated and repackaged in a non-food format like a capsule. A good example might be garlic capsules (such as Puritan’s Pride Odorless Garlic), spinach (like Swanson Premium Full Spectrum Spinach Leaf) or beets (like Nature’s Way Beet Root). When ingested, each of these concentrated, whole botanicals has shown promise in promoting health and preventing disease. Oregon's Eclectic Institute, Garden of Life's Vitamin Code Raw brand, and Standard Process are among the

companies that specialise in nutraceuticals. Bioactive chemicals occur naturally in functional diets. In addition to the typical nutritional content of the food, certain foods can bring health benefits. The traditional nutrients in this case refer to the vitamins and minerals found in that specific diet. Traditional nutrients are generally required in the diet, and their absence results in classic nutrient deficiencies. That is to say, functional foods contain a certain type of nutrient that benefits health.

### Conclusion

Functional foods are foods that naturally include bioactive chemicals such as beta-carotene, lycopene, resveratrol, ferulic acid, and others. Nutraceuticals, on the other hand, are bioactive chemicals that have been shown to have health advantages. Some meals are fortified with them, and others are available as dietary supplements or herbal products. As a result, the primary distinction between functional foods and nutraceuticals is their similarity. Only pharmaceutical grade products are subjected to these severe quality control processes, ensuring that these GMP certified medical foods and nutraceutical items are free of contaminants, fillers, and counterfeit materials. Furthermore, components in medical foods must be GRAS (Generally Recognized As Safe), whereas dietary supplement ingredients are frequently not evaluated and must meet a distinct set of regulations. Over-the-counter (OTC) dietary supplements are not well regulated, and most are not tested for component purity, contaminants, absorption/bioavailability, or stability.

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