

# Role of Vitamins in Biotransformation for Human Health

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**Objective:** Vitamins are nutraceutical groups involved in important processes that provide energy production, strengthening the immune system, fighting free radicals, the production of red blood cells. Biotransformation is a process involving the use of biological agents as catalysts to perform the transformation of chemical compounds. Biotransformation processes offer advantages as high regioselectivity, stereospecificity, and mild operating conditions when compared to chemical reactions. In most cases, the aim of using biotransformation is to introduce chirality into a molecule, to achieve a regioselective functionalization or to selectively convert a functional group among other groups with similar reactivity. The biotransformation of vitamins can be defined as the sum of the processes by which vitamins are altered by the biological reactions in the body. Biotransformation leading to a new way of synthesis of vitamins has recently been studied. In the literature, there are various studies about using vitamins as nutraceuticals.

**Methods:** The role of vitamins in the biotransformation can be diversified. They can be a source or final product in the biotransformation. In the present study, various roles of vitamins in the biotransformation were explained.

**Results:** When it is compared with traditional methods, obtained data showed that with biotransformation properties such as; activity of the vitamins, nutritional value of the food and productivity of the process were increased.

**Conclusion:** Even though the biotransformation of vitamins has been studied, there is no review paper about the biotransformation of vitamins and their benefits. In this review, the biotransformation of vitamins and vitamins that are used in the biotransformation were mentioned.

**Keywords:** Vitamins, biotransformation, antioxidant source, nutraceuticals, biotechnology, microbial vitamin production.