

# Benefits of Using Biopolymers to Deliver Essential Nutrients Found in Over-the-Counter Health Supplements

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Edible Polymers are composed of polysaccharides, proteins, and lipids, are nature-based materials, making it easily consumed by animals and human without any harmful effect on health. Vitamins are enriched with vitamins by being processed from flour. It is estimated that about 1 billion people worldwide have low levels of the vitamin in their blood. The essential vitamins needed for the body to function properly are vitamins A, C, B 6, and D. We get our nutrients through food. A balanced diet containing fruits, vegetables, and whole grains offers a mix of vitamins and minerals to the body. Biopolymers should be used to help with vitamin absorption in the human body because it is an easier way to get vitamins. The purpose of this essay is to discuss ideas on how biopolymers can be used to help improve the delivery of essential nutrients that are consumed in over-the-counter health products.

The main body systems are the nervous system, endocrine system, cardiovascular system, respiratory system, and digestive system. The nervous system sends signals throughout the body to control function and movement. The endocrine system secretes hormones into blood and other body fluids. For example, water balance, body growth and responses to stress are some responses regulated by the endocrine system. The cardiovascular system contains the heart, blood vessels and blood. The blood transports nutrients, hormones, gases, and waste products by using the blood vessels. The respiratory system consists of organs such as the nose, nasal cavities, sinuses, and pharynx that allow us to breathe by taking in oxygen and expelling carbon dioxide.

The digestive system is breaks down food into smaller components, until they can be absorbed and assimilated into the body. A person needs proteins, fats, carbohydrates, vitamins, minerals, and water to function properly. According to Harvard health a person needs 50 grams of protein, 50 grams of fat, 130 grams of carbs, and at least 11 cups of water in order to function properly. These nutrients are absorbed through the foods we consume for example, we get protein by eating chicken or fish. Biopolymers are polymetric substances produced from living cells. For example, gelatin are biopolymers produced from animal skin and bones in the presence of dilute acids. Some examples of edible biopolymers are iron gummies, these gummies are taken by iron deficient people and it helps gives them energy. Another example is hair and skin gummies, these gummies help clear skin and grow hair. The last example is antibiotic gummies that help with digestion and weight loss.

The biopolymers should include vitamins A which will help maintain the immune system. Vitamin B6 will help the body have a normal brain development and function, and helping the body make the hormones serotonin and norepinephrine, which influence mood, and melatonin, helping regulate the body clock. Lastly it should include vitamin c for a normal growth and development. The supplement will be added into the gummies through natural fruits and flavors such as lemons and oranges. The biopolymer would be tested by giving a person

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with low energy the gummy and record over a course of 24 hours how they behave. The biopolymer would be marketed by being promoting it through social media.

In conclusion, there are not any over the counter health gummies that promotes with health needs and has a good taste. My solution is to create a health gummy that taste good and supplies the vitamins needed for a person to function. These gummies will be made from natural resources such as plants, fruits, and vegetables. They will be made with sugars from the natural resources to ,

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