



Milk-Derived Bioactive Peptides: Therapeutic Implications for Human Health

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Description

Milk, a staple in many diets, has long been recognized for its nutritional value. Beyond its essential nutrients, recent research has shed light on the presence of bioactive peptides in milk, adding a new dimension to its health-promoting properties. Bioactive peptides are short protein fragments derived from the enzymatic breakdown of larger proteins in milk. These peptides exhibit biological activity and can influence various physiological functions in the body. Milk-derived bioactive peptides are known for their potential to positively impact human health.

Uses of bioactive peptides in milk products

Bloodpressure regulation: Several studies have highlighted the antihypertensive properties of bioactive peptides in milk. These peptides, often referred to as ACE inhibitors, have the ability to help regulate blood pressure by inhibiting the Angiotensin-Converting Enzyme (ACE). Including milk products with bioactive peptides in the diet may contribute to maintaining healthy blood pressure levels.

Antimicrobial activity: Bioactive peptides in milk possess antimicrobial properties, helping the body defend against harmful microorganisms. These peptides have been found to inhibit the growth of bacteria and other pathogens, contributing to improved immune function and overall health.

Opioid-like effects: Some bioactive peptides in milk have been identified as possessing opioid-like effects, which can influence mood and alleviate stress. These peptides may have a role in promoting mental well-being and could be considered as natural mood enhancers.

Antioxidant defense: Milk-derived peptides also exhibit antioxidant activity, helping to neutralize harmful free radicals in the body. Antioxidants play a crucial role in protecting cells from oxidative stress, which is linked to various chronic diseases and aging.

Bone health: Certain bioactive peptides found in milk may contribute to bone health by enhancing calcium absorption and modulating bone metabolism. Including milk products with these peptides may support the maintenance of strong and healthy bones.

Gut health: Bioactive peptides can exert positive effects on gut health by promoting the growth of beneficial bacteria and supporting the intestinal barrier function. A healthy gut is essential for proper digestion and overall well-being.

The discovery of bioactive peptides in milk products has opened up exciting possibilities for enhancing human health through natural dietary sources. From regulating blood pressure to supporting immune function and promoting mental well-being, these peptides offer a range of potential benefits. As research continues, we can expect a deeper understanding of the specific mechanisms and applications of these bioactive peptides. It is important to note that the health benefits of bioactive peptides may vary based on individual factors, and individuals with specific health concerns should consult with healthcare professionals for personalized advice. As we continue to explore the potential of bioactive peptides in milk, incorporating a variety of milk products into a balanced diet can be a delicious and nutritious way to harness these health-promoting properties. Milk-derived peptides have been found to modulate the immune system, influencing both innate and adaptive immune responses. Immunomodulatory peptides such as lactoferrin and lactalbumin enhance immune function by promoting the activity of immune cells and regulating cytokine production. These properties suggest a potential role for these peptides in supporting immune health and managing immune-related disorders. From antioxidant and antimicrobial properties to immunomodulatory and antihypertensive effects, these peptides demonstrate a wide range of biological activities.