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Perspective

Roles and Responsibilities of Exogenous and Endogenous Bioactive Species

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DESCRIPTION

Recently, several exogenous bioactive peptides have been shown to have promising anti-aging effects. These exogenous peptides can have mechanisms similar to those of endogenous peptides some can modulate the release of endogenous active peptides and even play a synergistic role with endogenous active peptides. Most aging studies use rodents that are easy to raise in the laboratory and have relatively uniform genotypes. Furthermore, most of the anti-aging research using bioactive peptides in rodent models focuses solely on the activity of individual endogenous or exogenous active peptides, whereas exogenous active peptides *versus* endogenous active peptides the regulatory effects of largely unstudied. Furthermore, studies of antiaging activity focus only on the effects of these bioactive peptides in individual organs or systems. However, pathological changes in one organ can usually lead to complications in multiple organs. Several bioactive anti-aging peptides can be used to reverse age-related multi-organ damage. In this article, we review recent reports on the antiaging effects of bioactive peptides in rodents, summarize the mechanisms of action of these peptides, and discuss the regulation of exogenous to endogenous active peptides. Natural products produced by plants can be divided into two large groups: primary and secondary metabolites. These compounds are the starting materials for a second group of compounds mainly represented by secondary metabolites arising from the three main compounds.

Shikimic acid, acetic acid, fatty acids. Primary metabolites are the basic units in the metabolism of secondary compounds. Plant tissue cultures are used to produce large amounts of secondary metabolites, whereas callus and cell suspension cultures often do not produce large amounts of whole plants. Therefore, several techniques have been used to increase the production of secondary metabolites by plant tissue culture techniques through selection of high-producing cells. Plant cell growth in tissue culture occurs when the conditions for division and growth are provided by nutrients, growth regulators, and other additives that affect metabolic activity within the cell. To achieve optimal secondary metabolite productivity, it is preferred to produce cells in optimal media to increase biomass. Plant growth regulators such as auxins and cytokinins influence cell division, various metabolic processes and plant growth in tissue culture.

Genome stability is important for living organisms. Whenever a DNA molecule is broken or damaged, it must be repaired, but not broken down. In contrast, protein breakdown is essential for the survival of microorganisms, plants and animals. Life emerges through on going processes of global and/or selective protein synthesis and degradation. The lifespan of proteins varies greatly depending on their role. Some structural proteins remain unchanged for days or years, whereas exogenous and regulatory proteins live only for a few minutes. When demonstrated, the molecular steps leading to protein synthesis have become one of the most fascinating and intense areas of biological research. Scientists have primarily focused on how the genetic code is transcribed into RNA and translated into protein. Surprisingly, few scientists are dedicated to pioneering research into autolysis. Breakdown of self-proteins into amino acids. Auto digestion should provide essential amino acids during starvation if exogenous sources were unable to provide them from food digestion.

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