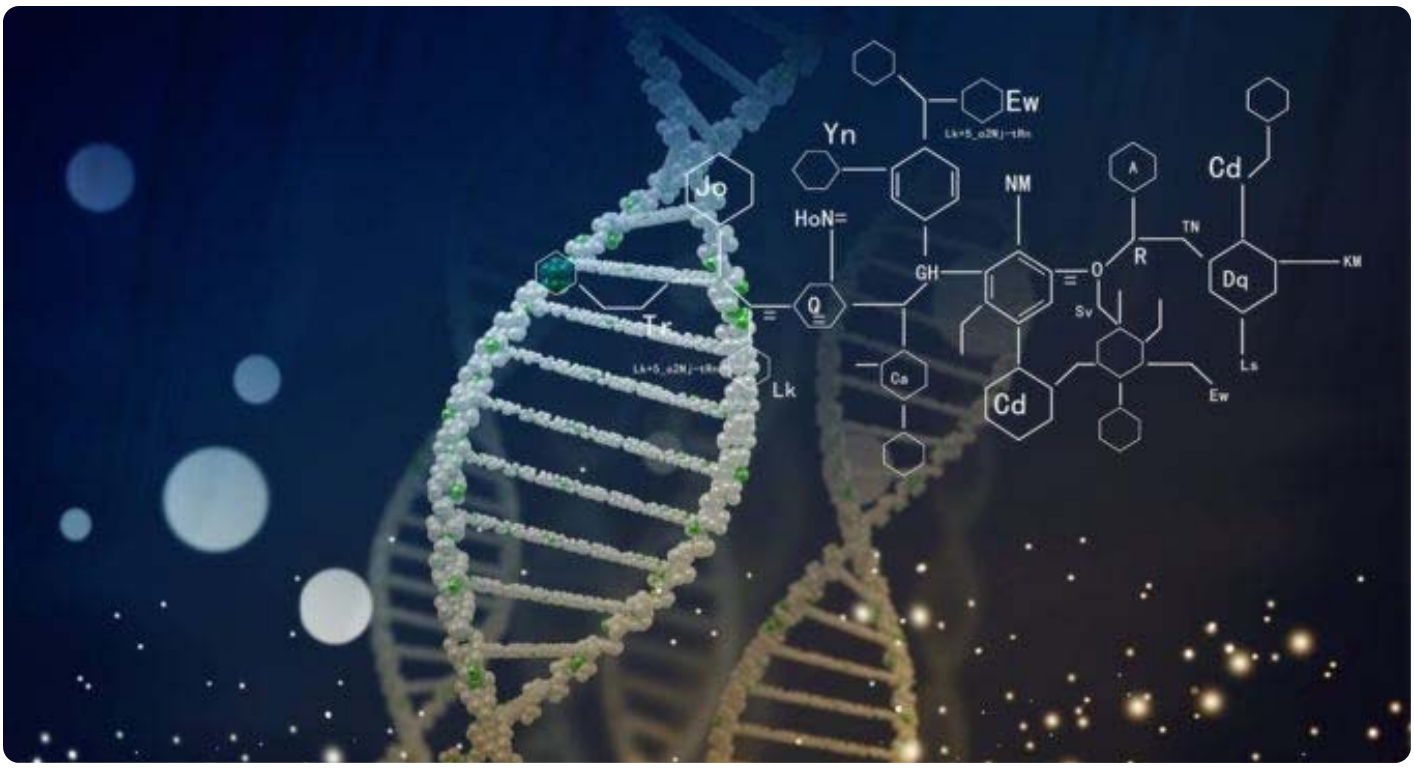

What are Peptide Bioregulators and what do they do?

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Peptides occur naturally in every cell of our body. These are molecules built up from two or more amino acid compounds. The small chains of amino acids (the basic units of organic matter) linked by amide bonds, are described as small proteins. Many more amino acids linked together then become what is known as Proteins. peptides play many important roles in the normal functioning of the human body. A well known peptide is insulin, which controls glucose levels in the blood. Other anti-aging tripeptides now used in regenerative medicine include TRH and sermorelin.

Peptide Bioregulators communicate with their specific section of the DNA, activating

genes for cellular regeneration via mitosis (cell division). In this way they are described as cellular mediators as they participate in the regulation of gene expression and protein synthesis. Among the functions of the peptides is the exchange of information throughout the interaction of cells such as endocrine systems, nervous and immune systems, the reconstruction of organs and tissues, restoration of the dissolved functions and regulation of gene activity. For these reasons, Peptide Bioregulators are defined as a New Class of Geroprotectors.

Why are Peptide Bioregulators described as the Future of Medicine?

Being able to direct the bodies ageing process is the future of medicine and Peptide bioregulators have been shown to prevent anomalies occurring in cell division. Short peptides are able to interact with DNA regions and thus affect the genome condition and consequently the synthesis of certain proteins, including those that control the physiological functions of the organism.

The study of short peptides with the determined structure allowed the Khavinson research team to not only study the mechanism of their action, but also to create a new class of peptide bioregulators termed cytogens.

Peptides are amino acid chains are endogenously produced in the cells of healthy tissues and play a regulatory role at the molecular and cellular levels that impacts the overall biochemical and physiological functioning of the particular organ in which they are active (hence the designation “peptide bioregulator”). Each specific peptide interacts with specific sections of DNA, transferring information encoded in its amino acid sequence to regulate particular genes in a particular tissue. Activation of these genes, (i.e., gene expression) stimulates protein synthesis.

The studying of genetic mechanisms of ageing is in the forefront of molecular medicine today. There have been defined genes which regulate mechanisms of individual development and the onset of diseases. Designing of effective bioregulators which would contribute to the achievement of special life span limit and maintain major physiological functions constitutes a vital issue in modern biogerontology.

Peptide Bioregulators as the future of medicine and are currently at the forefront of antiaging methods can be summarized as follows:

1. Biologically active tissue-specific peptides correct age-related genetic malfunctions which would otherwise result in the typical degenerative process of aging: organ atrophy, loss of function, disease development, and shortened life span.

2. Through the regulation of particular genes in particular tissues, peptides have the ability to reinitiate a process stalled by age, namely protein synthesis, leading to the repair and rebuilding of damaged tissues and organs and restoration of their main functions.

3. When used in combination, their rejuvenating effects are not just organ-specific but system-wide, resulting in significant increases in life span in animals and decreased mortality rates in humans, along with lowered disease incidence, reduced biological age, and improved physiological function and physical performance, all of which indicate enhanced biological reserve.

4. Through the peptide regulation of aging, humans now have the potential opportunity to add two or three (or perhaps more) decades of life to perhaps achieve the longevity of centenarians, or even supercentenarians, while remaining active, functional, vibrant and healthy.

How did Peptide Bioregulators get Discovered?

During the Cold War, Russian Military serving in Nuclear submarines and missile solo operators were literally showing signs of premature ageing. In the rush to keep up with the United States, it was not originally considered what would be the consequence to the Russian troops whom were being exposed to low levels of radiation for long periods. The Kremlin wanted answers that would help protect and maintain the troops' health and indeed reverse various conditions. Now, over thirty years later it is acknowledged that what began as a secret military research project has infact lead to the development of a DNA level antiaging medicine.

When instructed to find a treatment for premature ageing of Russian Submariners, Professor Khavinson began his quest by examining research by Professor Vladimir Dilman whom, from as early as the 1960's had shown that small, low molecular weight regulatory peptides are involved the genetic transfer of biological information that leads to the synthesis of proteins. Proteins are required

for tissue growth and the goal of Professor Khavinson was to use the regulatory peptides to regenerate tissue and thus restore the functions of age-damaged organs. In fact the manufacture of proteins according to the encoded genetic information, a complex process indispensable to life.

Professor Vladimir Dilman research extended the role of peptides in terms of being 'active' upon different organ systems which was proven decades earlier by 1904 Nobel Prize winner I.P. Pavlov. Pavlov explained the physiology of digestion whereby humans, through food, obtain proteins, which are split under the influence of gastric enzymes into small peptides and aminoacids, which in turn help to regulate the functions of different body functions and systems.

Professor Khavinson and his award winning team at the St Petersburg Institute of Biogerontology furthered the works by Dilman and Pavlov to understand have discovered that each organ / gland has a biological reserve of Peptides. Specifically, they found that healthy individuals with all their bodily faculties working at optimum performance, the level of peptide bioregulators in each of their organs was exactly 42%.

The study of short peptides lead to the researchers being able the explain the mechanism (and thus importance) of their action. Among the functions of the peptides is the complementary interaction of the DNA and regulatory peptides. This exchange of information throughout the interaction of cells such as endocrine systems, nervous and immune systems, the reconstruction of organs and tissues, restoration of the dissolved functions and regulation of gene activity.

The research also showed, that in the case of the submariners and other Russian troops suffering from premature ageing, that their levels of Peptide bioregulators was well below the optimum 42%. Professor Khavinson wanted to know if there could be a way to restore the levels of Petide Bioregulators that had been depleted in the soldiers and thus restore the bodies own natural mechanisms to maintain and repair tissues, glands and organs at a molecular DNA level.

After many years of research, the Russian research team invented and subsequently patented a highly efficient technology to isolate low molecular weight peptide fractions from animal organs and tissues. This technology allowed has created a new class of geroprotective (anti-aging) preparations – peptide bioregulators.

These substances were isolated
from various tissues and called peptide bioregulators. The main function of cytomedines is the normalizing effect on tissues of the organ; they were derived from and also substitute or
complement biologically active substances secreted by this morphological structure. Khavinson Peptides have been tried by over 15 million people with some Double Blind Placebo studies lasting many years. The peptides are safe with no reported no side effects or allergies in over 3 decades of use.

How much research has been completed into Russian Peptides?

Khavinson and his team at the Institute of Bioregulation and Gerontology in St. Petersburg, research of bioactive peptides spans over a 40 year period with clinical studies conducted in Ukraine and Russia.

Experimental studies that have been performed at Kirov Military Medical Academy since 1973 provided the basis for the new scientific concept of peptide bioregulation, which was formulated by V. G. Morozov and V. Kh. Khavinson in 1983.

The Russian research group has shown that each of the concentrated peptide bioregulators so far examined interact with particular strands of DNA – effectively and very specifically activating repair and regenerative processes. All forms of research necessary for a Pharmaceutical Drug have been performed including various phases of Double Blind Clinical Trials with subsequent follow up for many years. Over 15 million people around the world have now used the patented products.