Bioregulators: Cytamins, Cytomax, Cytogens. What's the Difference?

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There are three classes of peptide bioregulators developed at the St. Petersburg Institute of Bioregulation and Gerontology. These substances, known for their ability to aid in prophylaxis, auxiliary therapy, and maintaining physiological functions of organs and body systems, are distinguished into cytogens, cytamins, and cytomaxes based on their nature and complexity. Cytogens, synthesized short peptide chains, are recommended for early stages of peptide therapy and short prevention courses against aging. Cytamins, derived from various animal organs and tissues, work on a "like treats like" principle to maintain homeostasis and organ function. Cytomaxes, the latest generation, offer a higher concentration of peptides for optimized body system functions and faster cellular uptake due to their lower molecular weight. There are specific administration protocols for bioregulators and there are potential synergistic effects of stacking different bioregulators, as they have roles in health maintenance and disease prevention, with additional insights into the specific applications. There are benefits of stacking with Epobis, a synthetic peptide for neuroprotection and regeneration.

The following information is from The Khavinson Institute's retail outlet.

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Cytamins, Cytomax, Cytogens. What's the Difference?
Peptide bioregulators - a class of biologically active substances were created at the St. Petersburg Institute of Bioregulation and Gerontology, SZO RAMS.

They are used for prophylaxis, auxiliary therapy and maintenance within the physiological limits of the functional activity of organs and body systems.

Peptide bioregulators exist in the form of natural and synthesized complexes - cytogens, cytamins and cytomaxes.

Individual selection of a course of peptide bioregulators allows not only to normalize the body's proper function, but also to slow down its aging. Anyone after 30–40 years old needs two to four courses a year to support the vital functions of the body.

Reviews of peptide bioregulators, in particular, natural cytomax and synthesized cytogens, can be found here.

Cytogens

As a result of many years of scientific research at the St. Petersburg Institute of Bioregulation and Gerontology, SZO RAMS, a new approach to the search for physiologically active peptides has been developed.

Based on the analysis of the amino acid sequence of complexes of polypeptides extracted from organs and tissues of animals, short peptide chains were created, containing from 2 to 4 amino acids.
These chains are copies of the "active sites" of the most significant polypeptides in their group, contained in animal extracts.

This made it possible to create a new class of drugs - collectively called Cytogens.

Since Cytogens, in contrast to extracts (group of polypeptides), contain one type of molecule (the most significant short peptide), they are recommended for use at the initial stages of peptide therapy, as well as for short courses (10 days 3-4 times a year) for the prevention of premature aging.

The use of Cytogens makes it possible to regulate and restore the protective functions of the body, prevent the onset and development of a number of diseases and pathological conditions, and also accelerate the rehabilitation of patients after illnesses. The main effect of new peptide drugs on the human body is the normalization of cellular metabolism in various tissues.

Physiologically active short peptides are advisable to be used as components of food products at any age to maintain a normal level of metabolic processes, prevent and treat various diseases, rehabilitate after serious diseases, injuries, and operations, and slow down the aging process.

Cytamins

Cytamines represent the third group of drugs based on tissue-specific regulatory peptides. Unlike Cytogens Cytamins have a significantly more complex composition, which is due to the peculiarities of their production technology.

Cytamins are secreted from organs and tissues of farm animals - brain, pineal gland, thymus, liver, prostate, heart, bronchi, cartilage, pancreas, blood vessels, stomach, testes, thyroid gland, adrenal glands, kidneys, ovaries, eye tissues.

In the human body, Cytamins act according to the principle of "treating like with like", i.e. they maintain homeostasis and restore the work of those organs from which they are isolated in the animal. The molecular weight of Cytamins is up to 150 kDa.

Cytamins do not contain preservatives and other substances foreign to the body, have no side effects, have no contraindications, are compatible with other nutrients and medicines, and are also convenient for use.

Cytomaxes

Cytomaxes are the latest generation of peptide bioregulators, the concentration of peptides in them is 2.5-3 times higher than in Cytamins.

Unlike Cytamins, which have impurities in the form of scraps of amino acids from cell nuclei, Cytomaxes contain pure concentrated peptides.

Cytomaxes are natural peptides with an established structure, designed to optimize the functions of the main body systems, obtained from the thymus, cerebral cortex, pineal gland, prostate, liver, and other organs, which have a pronounced regulatory effect on the processes of protein biosynthesis in cells of similar tissues.

The molecular weight of Cytomaxes (up to 10 kDa) differs from the molecular weight of Cytamins (up to 150 kDa), which facilitates their passage through the cell membrane. Therefore Cytomaxes are actively absorbed and accurately reach the target organ, providing a fast but gentle regulatory action.

Natural peptides develop their action smoothly since a certain accumulation of peptides (homing effect) is required for tissue response in order to fill the deficit.

The resulting effect from 2 to 4 months of using natural peptides can last from 4 to 6 months. After this period, it is recommended to resume taking peptides.

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The following information has been accumulated through reading and discussions with experts. It does not appear to be documented in any single place and is only verified anecdotally by the experience of researchers.

Protocols

Cytogens - typical administration cycle is 20 days 2x per day. The dose depends on the particular Cytogen. Cytogens are also known as Khavinson short bioregulators.

Cytomaxes - typical administration cycle is a single dose for 30 days, followed by 3 cycles of a 20-day break and 10 days of dosing. Total of four months. Dosing per package.

Cytamins - typical administration cycle is 20 days 2x per day. The dose depends on the particular Cytamin.

Sequence - It is typical to start with administering the relevant Cytogens, followed by administering the relevant Cytomaxes, and then concluding the cycle with the relevant Cytamins. Note, Cytamins were created before Cytomaxes and some practitioners do not think Cytamins are needed in a cycle where Cytomaxes are included.

For instance, a kidney cycle could be: A Stack of Cytogens Vilon, Cartalax, Ovagen and Vesugen, followed by Cytomax Pielotax and concluding with Cytamin Renisamine.

A heart cycle could be: Cardiogen followed by Chelohart and then Koramine.

Other peptides can be used during these cycles. For example, one might include SS31 during cycles for the brain, kidney, or heart.

Stacking Cytogens

Stacking of bioregulators is synergistic and seemingly without a downside. Given that Cytomaxes and Cytamins are natural animal extracts, they can be stacked at will.

Cytogens are synthetic and focused on specific DNA receptors as follows:

Bioregulator	DNA Receptor
Bronchogen	CTCC
Cardiogen	AGTC
Cartalax	ACCT
Cortagen	AACC
Epitalon	AATG
Livagen	TCCT
Ovagen	CTCC
Pancregen	ACCT

Pinealon	TTCC
Protamax	ATTC
Testagen	CAAC
Thymogen	AACG
Vesugen	GCCG
Vesugen	GCCG
Vilon	AGAT

The following stacks have been designed to get the synergistic effects without overloading any single DNA Receptor:

Stack	Bioregulator	Dose
1	Bronchogen	200mg
1	Cardiogen	100mg
1	Chonluten	300mg
1	Crystagen	200mg
1	Pancragen	100mg
1	Vesugen	300mg
2	Cortagen	200mg
2	Epitalon	200mg
2	Pinealon	100mg
2	Thymogen	300mg
2	Vesugen	300mg
2	Vilon	300mg
3	Cartalax	300mg
3	Livagen	100mg
3	Ovagen	200mg
3	Prostamax (men)/Cardiogen (women)*	200/100 mg
3	Testagen (men)/Epitalon (women)*	200/200mg
3	Vesilute	200mg
*	*No information found on the basis for the*	
	substitutions for women	

The recommended cycle is to administer each stack consecutively, 2 doses per day for 20 days (total of 60 days) followed by a 30-60 day break. The cycle can be done annually, semi-annually, or every

three to four months. There may be diminishing returns and there will be increasing costs for more frequent cycles. Some use the break between cycles to enhance with Cytomaxes depending on particular needs.

The following lists the more common Khavinson short bioregulators and their function(s):

Bioregulator	**Function**
Bronchogen	Targets lung and respiratory health
Cardiogen	Aims at heart health
Cartalax	Focuses on the health of cartilage and joints
Chonluten	A bioregulator for the respiratory system
Cortagen	Designed to support healthy cortisol levels and adrenal gland function.
Crystagen	Aimed at the immune system
Epithalon (Epitalon)	Targets the pineal gland
Livagen	Aimed at promoting liver health and supporting its regenerative processes.
Ovagen	Aims at liver health
Pancragen	Targets the pancreas
Pinealon	Aims to improve brain function
Prostamax	Targets prostate health in men.
Testagen	Targets testicular function
Thymogen	Designed to support the immune system through action on the thymus gland.
Vesilute	Designed for retinal health and overall eye function.
Vesugen	Targets blood vessel health
Vilon	A peptide with potential effects on the regulation of metabolic processes and enhancement of overall vitality.

Stacking with Epobis

Epobis is a synthetic, dendrimeric peptide derived from the sequence of human erythropoietin (EPO). It is designed to bind to the erythropoietin receptor (EPO-R) and has been found to promote neuritogenesis (the process of forming new neurites, which are projections from a neuron that can develop into axons and dendrites) and neuronal cell survival. The benefits of Epobis, particularly in the context of neuroprotection and neuroregeneration, are highlighted through its ability to:

Promote Neuronal Survival: Epobis has been shown to support the survival of neuronal cells. This is crucial in various neurological conditions where cell death contributes to disease progression and symptoms.

Induce Neurite Outgrowth: By promoting neuritogenesis, Epobis can aid in the repair and regeneration of neuronal connections. This is beneficial in recovering from nervous system injuries or in neurodegenerative diseases where the loss of neuronal connections is a hallmark.

Neuroprotective Properties: Epobis has neuroprotective effects, meaning it can help protect neurons from damage caused by neurotoxins, oxidative stress, or inflammation. This makes it a potential therapeutic agent for conditions like spinal cord injury, stroke, and neurodegenerative diseases.

Non-Hematopoietic Action: Unlike erythropoietin, which can have hematopoietic effects (stimulating the production of red blood cells), Epobis is designed to be a non-hematopoietic agonist of the EPO receptor. This allows it to provide neuroprotective and regenerative benefits without affecting red blood cell production, potentially reducing the risk of side effects associated with increased hematocrit levels.

Epobis's ability to bind to the EPO receptor and its effects on neuronal cells make it an intriguing candidate for further research and development in the treatment of various neurological conditions. Its specific action on promoting neuronal survival and regeneration, combined with its neuroprotective properties, underlines its potential therapeutic value.

Epobis is mentioned in this context because researchers report that a small daily dose of 100 mcg stacked with bioregulators, either the Cytogen stacks or the Cytogen/Cytomax/Cytamin stacks/cycles enhances the effectiveness of the bioregulators.

In conclusion, the nuanced differences between Cytamins, Cytomax, and Cytogens underscore the sophistication of peptide bioregulation therapies developed by the Khavinson Institute. Each class of bioregulators offers unique benefits and applications, tailored to support and enhance the body's natural physiological processes, from disease prevention to the

optimization of organ functions and slowing the aging process. The strategic use of these bioregulators, whether in isolation or through carefully designed stacks, represents a cutting-edge approach in bioregulatory science. Moreover, the potential for synergistic effects, especially when combined with innovative peptides like Epobis, opens new avenues for personalized health maintenance strategies. As research and anecdotal evidence continue to grow, the integration of Cytamins, Cytomax, and Cytogens into health regimens promises a future where aging and disease management are more effectively addressed at the cellular level, offering hope for enhanced quality of life and longevity.