



Colostrum

is a unique bioactive natural substance, which ensures the most powerful regeneration of the human organism.

It contains **more than 250 natural chemical compounds** aimed at a single goal – **protection and regeneration of our body cells.**

As the only natural substance, it is much more efficient than synthetic products in **slowing down the emergence of ageing signs, but also in causing their significant regression.**

The earlier **colostrum** is obtained, the better are its properties. Its biological value decreases with each hour and it turns into milk after about one day.

Colostrum from first milking during the first two hours it is the purest and the best bioactive formula that can be found in nature.

Medical information:

Colostrum contains a highly condensed, powerful dose of immunity and growth factors, including EGF (Epidermal Growth Factor), which is a cytokine, stimulating and repairing the epidermis. The cytokines found in milk accelerate the wound healing process, they nourish and moisturize the skin, they stimulate division of formation layer of the epidermis and its proper growth.

About a dozen thousand scientific works have been written to document and describe the impact of this substance on the human organism, health and skin, and thus on natural beauty.

Going further, we can analyze the most significant components of colostrum. For instance, the EGF growth factor stimulates cell proliferation and migration and it may influence the frequency of programmed cell death by activation of a signaling system (Fas/Fas Ligand (FasL).

Peptide growth factors influence the accelerated regeneration of damaged tissue, which results in increased cell proliferation, migration and regeneration in the period of 24-48 hours after the injury.

Colostrum contains numerous cytokines, including interleukins II-1b, II-6, II-10, tumor necrosis factor TNF- α , granulocytes and macrophages. It is possible that these factors play a significant role in development of the immunological system, cooperating with immunoglobulin and antibacterial factors, such as lactoperoxidase. TGF- β , which perform several functions, are powerful proteins, which chemically attract the white blood cells and stimulate movement of epithelial cells in the places of injury. Therefore, they probably serve as a key to stimulation and restoring of the earlier phase of repair processes.

In general, colostrum contains a great number of factors that influence the growth and diversification of cells and their functioning.

Summing up, thanks to its composition, colostrum is a complete product, containing numerous bioactive components, such as proteins, carbohydrates, fats, minerals and vitamins, as well as growth factors. It provides a natural anti-infection barrier. It stimulates skin growth and regeneration. It restores the natural balance of the skin, thickening it and preventing early ageing.

As a skin care product, colostrum performs several functions:

- strengthens blood vessels (wit. K, C)
- acts as an antiseptic substance (lysozyme, lactoferrin, α -lactalbumin)
- binds water in the epidermis (threonine, glutaminic acid, serine, NMF)

- fights free radicals (vit. A, C, E, anti-oxidant enzymes, estrogen, zinc, selenium, copper, manganese, cobalt)
 - accelerates skin regeneration (cysteine, methionine, valine, leucine, isoleucine, zinc, iron, EGF, IGF-1)
 - impacts synthesis of collagen (cytokines)
- The current global research trends show that healthy food, nutrition supplements as well as nutraceuticals and cosmeceutics will become a basis for the integral health protection system and preservation of youth in the future.

Frequently Asked Questions

1. *What is colostrum?*

Colostrum is secreted by the lactiferous gland of mammals, created in the last period before delivery and in the first days after giving birth. Colostrum is a unique bioactive natural substance, which ensures the most powerful regeneration of the human organism. It contains more than 250 natural chemical compounds such as growth factors, hormones, enzymes, polyamides, derivatives of nucleic acids and other substances. It also contains bacteriostatic agents, such as immunoglobulin, lactoperoxidases, lactenins, lactoferrin, lysozyme and leucocytes. Colostrum includes also high concentrations of vitamins and mineral compounds, which are uniquely easily absorbed, aimed at one task – protection and regeneration of our body cells. Colostrum is known as “the Fountain of Youth” – as the only natural substance, which not only slows down ageing symptoms, but results in their significant regression, much more efficiently than synthetic products. Colostrum is obtained during the early phase of lactation. The earlier it is obtained, the better are its properties. Its biological value decreases with each hour and it turns into milk after about one day (see the table).

It is the only natural substance, characterized by such high concentration of unique compounds.

2. *Is gathering of colostrum for production purposes dangerous for the calf?*

No. In general, the quantity of colostrum produced is twice as much as a newly born calf needs. The quantity gathered is adapted to make sure that the calf does not suffer from its insufficient amount.

3. *Is colostrum an equivalent of milk?*

No. Colostrum is not milk. Its properties and consistency differ from milk substantially.

4. *Why is colostrum so often thought to be the same as milk?*

It is because after several days of lactation, it assumes the properties of milk and then turns into milk.

5. *Does colostrum retain its properties for the whole time?*

No. The process of transformation is not taking place steadily. As early as within 6 hours after lactation starts, colostrum loses almost a half of its bioactive substances (see the table).

6. *Is colostrum from the first hours “better” than collected after a dozen or several dozen hours?*

Definitely yes. Colostrum from the first lactation is an exclusive substance, very rare, practically absent from the market. The later it is collected, the weaker are its properties, and thus it is much cheaper (see the table).

7. *Which components of colostrum make it different from milk?*

Colostrum contains more than 250 natural chemical compounds such as growth factors, hormones, enzymes, polyamides, derivatives of nucleic acids and other substances. It also contains bacteriostatic agents, such as immunoglobulin, lactoperoxidases, lactenins, lactoferrin, lysozyme and leucocytes. Colostrum includes also high concentrations of vitamins and mineral compounds. It is the only natural substance of such high concentration of unique components. It contains a greatly condense, powerful dose of resistance and growth factors, including EGF (Epidermal Growth Factor), which is a cytokine, stimulating and repairing the epidermis. The cytokines found in milk accelerate the wound healing process, they nourish and moisturize the skin, they stimulate division of formation layer of the epidermis and its proper growth.

8. *What is the common name of colostrum in English?*

Colostrum is a Latin name having no direct equivalent in English language. It is known colloquially as beestings, bisnings or first milk; these words, however, are not a translation of the word „colostrum”.

9. *Are colostrum, beestings, bisnings different substances?*

No, these are different names of the same substance.

10. *Why is colostrum known as “the Fountain of Youth”?*

It is because it contains some active substances, able to regenerate tissue, restore the cellular balance and stimulate and modulate the immunological system. These are mainly the Epidermal Growth Factors and Immunoglobulin, as well as many other substances of this type. Colostrum is the only natural substance in the world, containing these substances. Therefore, it is used as a material e.g. in aesthetic, reconstructive and regenerative surgery.

11. *Is use of colostrum safe?*

Yes. It is absolutely safe. It is the first type of food eaten by any newborn mammal.

12. *Can colostrum be overdosed?*

No. Despite the fact that every substance is harmful, when used in excess, including mineral water, colostrum is hard to overdose, just like water.

13. *Has colostrum been subjected to scientific research?*

Yes. Thousands of scientific works have been written around the world about Colostrum, its activity and substances contained in it. It is used for production of rare drugs, exclusive cosmetics and nutrition supplements.

14. What are the fields of science and medicine, in which colostrum is applied?

Most often in plastic and reconstructive surgery, aesthetic medicine, dermatology, allergology, nutrition science, geriatrics, immunology and a great many other fields.

15. Why is colostrum so unique as a natural substance?

Its uniqueness is due to the fact that all mammals are born in a state of hypogammaglobulinemia and their immunological activity is decreased; as a result, in contact with bacteria and pathogenic microorganisms, they are defenseless and particularly susceptible to infections. Only colostrum of the mother provides them with immunoglobulin and other substances that ensure their resistance and that stimulate growth, protecting them against negative impact of the surrounding world.

16. What is the appearance of colostrum in nature?

It is a thick, yellow liquid of slightly acidic pH (pH 6,4). It is a mixture of various substances of varying physical, chemical and biological properties.

17. Can colostrum be used in raw state?

Of course, it can be used in raw state; however, for manufacturing purposes, it is turned into powder. This basic form is used for production of creams, balms, capsules and other products, which contain more or less colostrum.

18. Does processing destroy the properties of colostrum?

In most cases it does. Colostrum is a protein substance; therefore, its degradation takes place above the temperature of 42 °C. The only method to preserve practically all properties of fresh colostrum is liofilization. Colostrum contained in Serum Colostrum2h is processed in this way.

19. What is liofilization?

It is cold processing, sublimation drying, used to process thermolabile products (which are not resistant to heating). Products for astronauts, Himalayan mountaineers and polar explorers are processed in this way to ensure the required quality and life cycle of the product.

20. Why aren't colostrum products manufactured in great quantities?

It is mostly because colostrum is a rare substance, as it is created only for several dozen hours after delivery. **The situation is rare enough to exclude the possibility of mass production, making colostrum an exclusive substance.**

21. Why do prices of colostrum preparations vary so much?

The prices of colostrum are influenced by two factors:

The time of obtaining of colostrum (see the table) and the processing method (see clause 17 and 18)

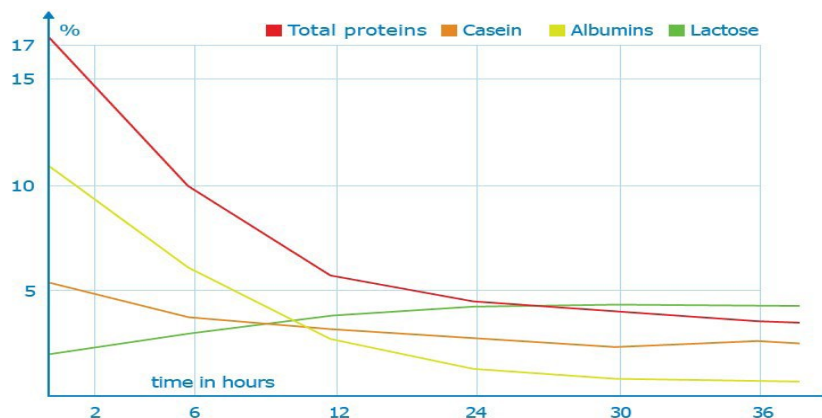
Collection time:

The most valuable colostrum comes from the first lactation, that is, the first 2 hours, which makes the substance even rarer – the quantity of the substance, which can be obtained, is very small, but its properties are fascinating (see clause 1 and the table).

Processing method (clause 17 and 18):

To preserve all properties of the substance, it must be cold-processed. Therefore, colostrum from the first hours, liofilized, is practically absent from the market. Therefore the price of this product varies so much from products of colostrum obtained several days after lactation and hot-processed. These products are completely different, when it comes to their content of bioactive substances and the effects of their use.

Percentage changes in components of colostrum along with passage of time from the first collection:



As time passes, colostrum loses most of its properties irrevocably. The percentage content of proteins only after 6 hours decreases by almost 50%, by 65% in 12 hours and after 24 hours by as much as 75%. The proteins contained in colostrum are among the most valuable substances for our skin: immunoglobulin, EGF, TGF, IGF-1, FGF factors, as well as other substances, such as lactoperoxidase, lactoferrin, cytokines etc.

The raw material obtained during the first two hours, or colostrum class 0, is the most powerful, unique natural substance, used by plastic surgery clinics, medical institutes and the most exclusive manufacturers of cosmeceutics in the world.

Commercial approach:

Applicator

It is characterized by the highest concentration of colostrum that can be obtained in a cream base. In composition with collagen and hyaluronic acid, it provides the most efficient mixture for cellular level skin regeneration on the market. The handy package allows for use of the cream at any time in any place.

Lotion

A combination of colostrum, collagen, hyaluronic acid and silk proteins in a consistency, which allows for easy and efficient application of the cosmetic on a large skin surface.

Cream

It is characterized by the highest concentration of colostrum that can be obtained in a cream base. In composition with collagen and hyaluronic acid, it provides the most efficient mixture for cellular level skin regeneration on the market.

