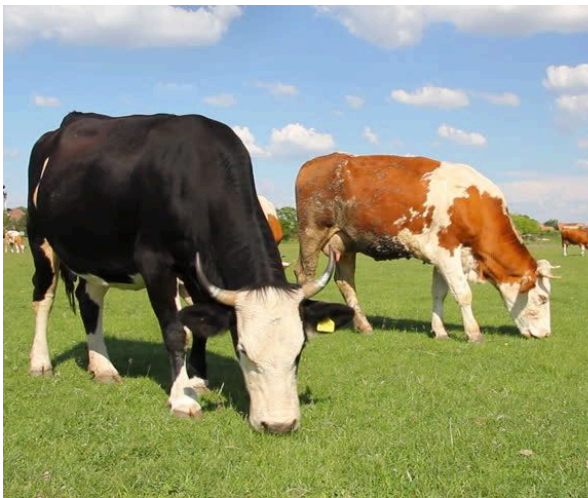


# Introducing COLOSTRUM<sup>by</sup> ND Pharma

COLOSTRUM<sup>by</sup> ND Pharma

- ND (BC) Food Grade Colostrum 20%
- ND (BC) Colostrum Powder 30%
- ND (BC) High Protein Colostrum 30%
- ND (BC) Ultra-Grade Colostrum 35%
- ND (BC) Premium Grade Colostrum 60%



## POWERED BY MOTHER NATURE

**Colostrum is the first milk after giving birth.**

The newborn gets it to activate the natural body defenses. 3-5 days after colostrum changes to normal milk. In terms of nutritional physiology this first milk plays a minor role. Human babies rather lose weight in the first days. Colostrum from the mammary glands is of utmost importance for the formation of body defensive elements, a wholesome reaction to environmental conditions, and as a consequence the further development of the newborn.

Since ancient times the significance of colostrum was underestimated. Nowadays, due to the advanced status of the latest analyses, the advance of health and medical discoveries, Colostrum is acquiring its true importance and the place that it deserved within the Food, Feed and Nutrition fields.



## Quality

From the collection to the processing of colostrum, there are huge quality differences.

An extensive and deep knowledge and a specific labour force are crucial to manipulate and treat such vital and delicate product in an appropriate way to ensure that product maintain the vitality of colostrum.

Collected from by certified farms, from EU inspected establishments in the heartland of milk in France and Spain.

Collecting points are well equipped and managed within freezers, storing in clean collecting tanks and gathering all relevant documentation to ensure and verify traceability our Colostrum is frozen directly after milking collection, that means the first 12 hours

Specifically developed and proprietary cold processing procedures are employed and all this is done entirely without heating and thus far damaging the immense amount of Bioactive substances using the latest and most gentle technologies to reach this goal.

Due to the special treatment, it contains the **natural enzyme telomerase** in the final product.

A spectacular combination of active ingredients results with free, vivid, and low-molecular vital substances (immunoglobulin's, growth factors, proteins, vitamins and minerals).

For that reason we can guarantee to customers and end-users the best available quality in the market for Colostrum Powder.



## Manufacture of Colostrum

Liquid colostrum is degreased and directly deep frozen as it comes from the farm and collection points. Colostrum contains 10% fat so with such content may not be easily digestible in its unprocessed form.

Next step is removal of casein where such constituents are removed from colostrum to be used in other applications as cheese. Colostrum whey remains containing a number of high-molecular elements so entering into an immediate sterile filtration in such state is nearly impossible.

Whey is then submitted into a microfiltration process so that only these constituents are left over that can pass the small pores of the filter membranes.

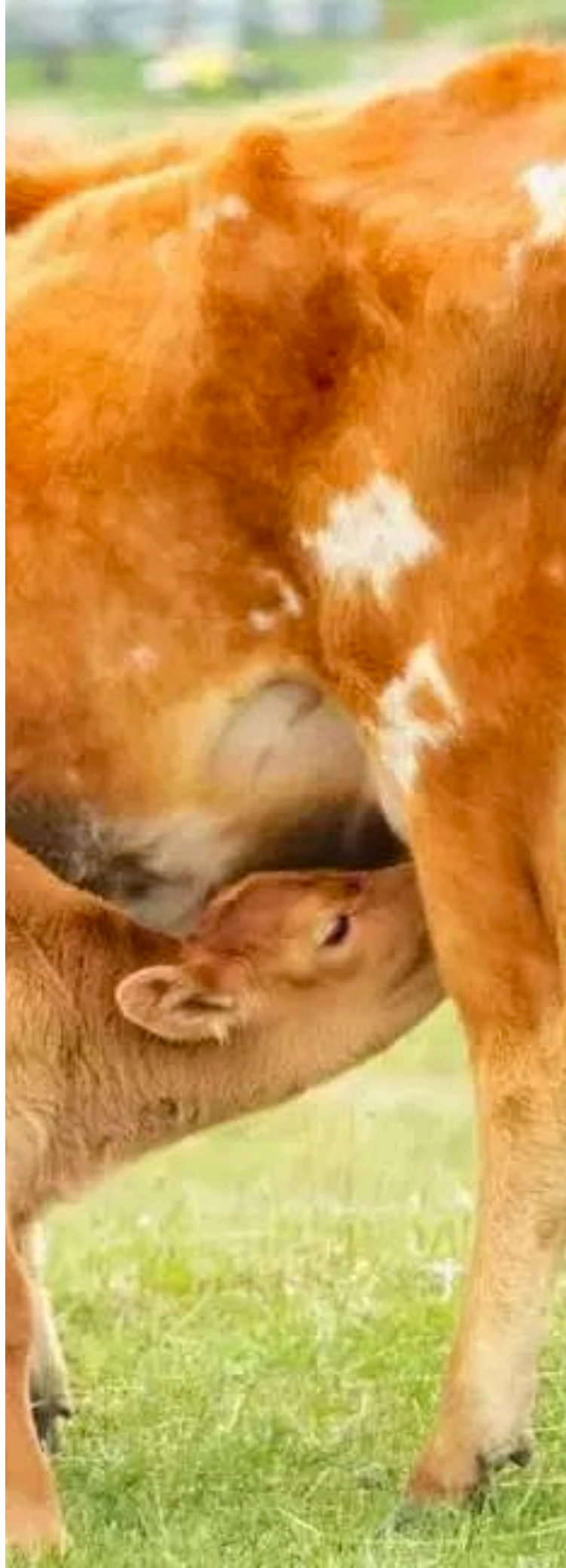
Main are the immunoglobulin's (antibodies), growth factors, cytokines, interferons, interleukins, and many others.

Bacteria are also very small, so the sterile filter must not exceed a maximum size of 0.2  $\mu$ . Fortunately the protein molecules of the remaining ingredients are even smaller than the smallest bacterium. Afterwards it is refrozen to be freeze-dried.

In cold manufacturing, all ingredients survive processing. This procedure is a purely physical process, where neither chemicals nor other additives – except for one enzyme to separate the casein – are employed.

This procedure is engineered on the basis of the manufacturing techniques of biotechnology to protect the ingredients and to maintain their biological activity.

Even the most sensitive ingredients like enzymes are preserved in that way.



## **Colostrum is a Super-food**

Colostrum is much more than a highly nutritious functional food. It is also a substance that contains a wonderful amount of life-supporting and health promotion quite active substances.

The significance and high importance of Colostrum is best illustrated by the fact that most animals require Colostrum just after birth to survive as the only supporting nutritional element and critical factor to reach such survival.

Some of these life supporting and growth promoting substances are antibodies, immune factors, growth factors, attachment factors, cytokines, oligosaccharides, essential fatty acids, and phosphides.

The remarkable issue about Colostrum is that all these substances operates synergistically in so many biological and physiological mediated ways to enhance the overall effect of each individual component in full benefit of any individual relying on Colostrum as a super-food.

### **Children and colostrum**

It's a question that raise continuously over Colostrum. Is safe for Children?

The answer is "Absolutely Yes".

Colostrum can help growing children in many ways, from better concentration, increased memory plus children have a higher tendency to catch colds and illness from other schoolmates and Colostrum will help in so many ways.

Attending to content of Colostrum, it appears that carry more nutrients, elements, substances that are keen to life than any other edible material, food or aliment in the world.



## Colostrum for Adults

Once puberty has passed, our bodies begin the ageing process that is accompanied of a progressive decrease in the production of immune and growth factors that help us fight to disease and heal damaged body tissue, two critical elements in the maintenance of good health and free-of-disease. Colostrum is the only natural source of these life-giving/life-enhancing components.

## Our Colostrum Products

**ND (BC) Food Grade Colostrum 20%**

**ND (BC) Colostrum Powder 30%**

**ND (BC) High Protein Colostrum 30%**

**ND (BC) Ultra-Grade Colostrum 35%**

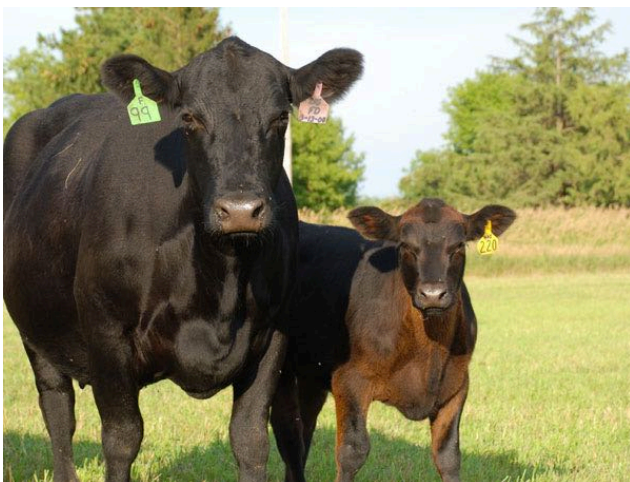
**ND (BC) Premium Grade Colostrum 60%**

**Bovine colostrum freeze-dried Pre-milk Powder that contains high level Amino Acids and Immunoglobulin. Yellowish powder from first and second milking of the cow, non-organic or organic quality available. BSE and IBR free. The bovine colostrum powder is water soluble and can be added to liquid foods, drinks and cosmetics as well encapsulated or tableted.**

### Ask Us

info@ndpharmabiotech.com

Ref: Colostrum



## Colostrum is the nutrition Gold

Whereas newborns are delivered and purport a certain immune protection, this does not apply to ruminants for instance. This is why Mother Nature evolution centuries gave to such species the Colostrum.

Cows have a 4-6-times placental barrier. In practical terms this means that the placenta does not pass (or enter immunoglobulin's to the cow fetus and unborn. This is the reason why the newborn calf has to acquire immune protection throughout the first "milk".

This is the reason behind that cow's colostrum is rich in immunoglobulin's. It contains agents of the immune system which in comparison with the human blood, are concentrated up to 40-times higher.

Every farmer around the world knows that colostrum is critical and indispensable to the life of the calf and the main rule is never keep this unique liquid from the calf.

Actually, due to farming systems and evolution of industrial farming and new techniques in nutrition, feed and veterinary science, we are aware that cows and goats give much more colostrum than needed by the calf. So this is why we can supply our customers with the surplus.

The older the cow or goat, the richer in content the colostrum is. This is perfectly normal, because the older the animal life form (including humans), the more antibodies are produced against invaders.

It's know within the industry that colostrum has a such evolved characteristics and composition and despite some attempts made by certain operators, the result is that colostrum never has been copied or produced artificially. Colostrum holds a multitude of messengers and transcription factors unique in nature, so therefore is capable of transferring not only its own ingredients to the cells, but also substances from daily food and dietary supplements that are essential to the body.

## Colostrum as a fountain of youth

As a research and development company with strong scientific background, we should say that no scientific support of this affirmation can be sustained nowadays, in light of evidence and proof for such. In this context, we should talk about an exceptional enzyme that which many roles in human health has been discussed from a decade or more: **the telomerase**.

Currently, scientific research is being conducted to file coherences regarding the sustained hypotheses that pray into what extent telomerase could be responsible for aiding the chromosome-end tracts after cell division. The impact on cell division is considered by now to be an essential feature related to all processes of ageing, oxidative stress and cell changes due to age.

Colostrum is the only food known that contains the enzyme **telomerase**. However its admitted by scientific community that telomerase could only be provided in fresh, genuine colostrum.

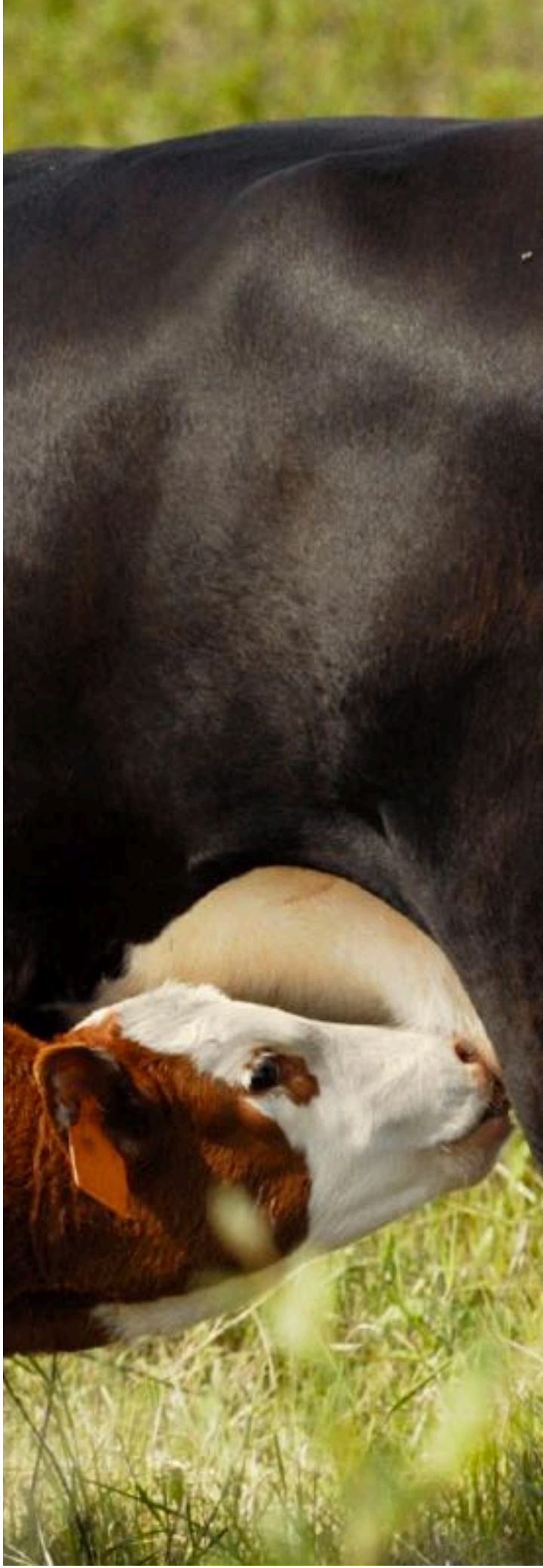
Despite the fact that further scientific research is needed, latest advancements tend to pinpoint that telomerase, and so colostrum, may really exercise some kind of influence in cell division and over the consequences of age.

### Composition of colostrum

Components of colostrum can be divided in two main categories: immune system factors and growth factors.

Immunoglobulins, also called antibodies, are proteins produced by the immune system in response to bacteria, virus or any other kind foreign invasion.

Immunoglobulins are over 50% of the protein component, providing specific anti-microbial protection by neutralizing bacteria, bacterial toxins, viruses and some parasites.



## COMPOSITION

Because colostrum is a natural commodity, comparing two different production batches, marginal fluctuations of the analysis values can occur.

### **Growth factor and hormones per 100 gram of ND Pharma Colostrum**

**IGF-1** 250 – 350 µg Wound healing, proliferation of muscle cells

**IGF-2** 30 – 60 µg Wound healing; highest during fetal

**TGF-β (Beta)** 10 – 30 µg Wound healing, collagen synthesis, growth of osteoblasts

**GH 200** µg Growth of the body, hypophysis (pituitary gland), water balance, concentration of carbohydrates and fats in blood, blood sugar, protein balance, thyroid.

**IGFBP-3** 200 µ Mediates metabolic, mitotic activities of GH & IGF-1

**Cortisol** 17'000 µg Stress hormone of the adrenal, carbohydrates balance, lipometabolism, protein turnover, anti-inflammatory, anti-allergic effect by blocking allergic inflammatory reactions.

**LH 200** mU Luteinizing hormone (hypophysis), sex hormone, formation of testosterone and sperm maturation with men, facilitates pregnancy, ovulation and the formation of corpus lutein with women.

**FSH 200** mU Follicle-stimulating hormone, glycoprotein & sex hormone, growth of oocytes with women, formation of sperms (spermatogenesis) with men.

**Prolactin** 400 ng Lactotrope hormone (hypophysis), growth during pregnancy, lactation with women, fertility of men.

**Testosterone** 3360 ng Development of sexual organs, facilitation of bone growth in adolescence, increase of muscle mass, reduction of cholesterol level, physical endurance & power, increase of protein building



## COMPOSITION II

### Growth factor and hormones per 100 gram of ND Pharma Colostrum (cont.)

**Estradiol** 198 ng Essential estrogen, growth of primary & secondary female genitals, building of skeletal structure (facilitates the uptake of calcium and its fitting in the bones, influences dermal functions, eases skin diseases & dermatological reactions)

**Progesterone** 1800 ng Progesterone, influences functions around pregnancy, water balance, stability of veins and bones, memory, mental balance, forms other hormones – testosterone, estrogen, aldosterone and cortisol

**FT 3** 23'000 pg Free T3, triiodthyronine (thyroid), influences fundamental metabolic processes & oxygen consumption, development of heat, increases the uptake of carbohydrates, activates release of the body's own fat storage, decomposition of cholesterol, protein synthesis, influences the water balance and bone metabolism, growth and maturation processes of the skeleton, development of the brain

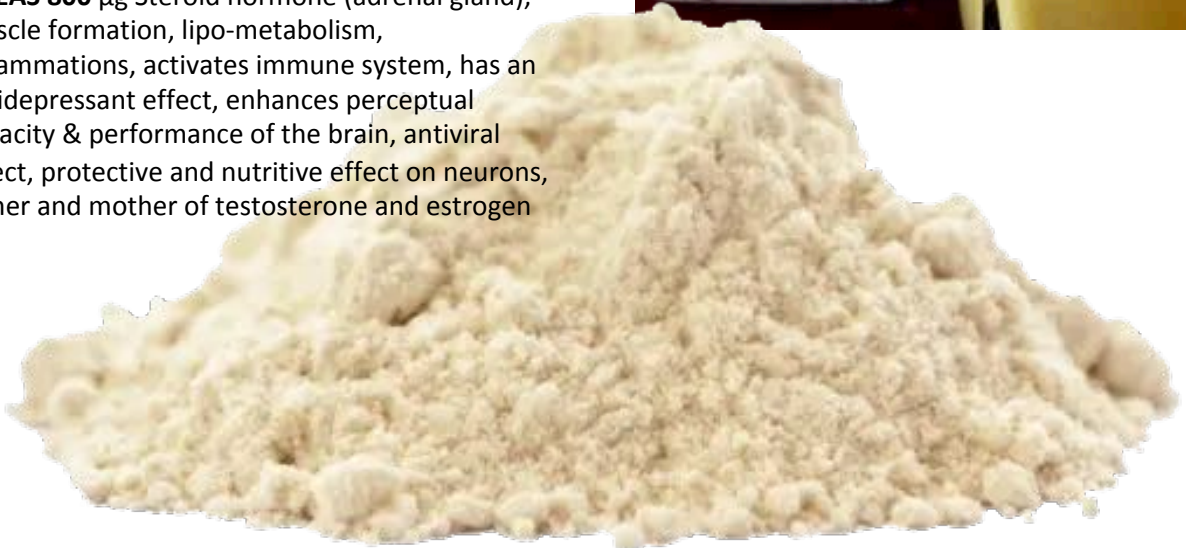
**FT 4** 800 pg Free and unbound thyroid hormone T4 (thyroxin), the same but less intensive effect as T3, is turned into T3 to develop its effect

**TSH** 200 mU Thyrotropine (adenohypophysis), stimulates the thyroid to free the thyroid hormones T3 and T4

**Calcitonin** 15'800 pg Hypophysis, influences the concentration of calcium (calcium balance) and phosphate, influences the transport of other ions and of those of water, pain

**PTH** 200 pg Parathyrine (parathyroid), parathormone and calcitonin influence the calcium balance of the body

**DHEAS** 800 µg Steroid hormone (adrenal gland), muscle formation, lipo-metabolism, inflammations, activates immune system, has an antidepressant effect, enhances perceptual capacity & performance of the brain, antiviral effect, protective and nutritive effect on neurons, father and mother of testosterone and estrogen



## Immunoglobulin and Antibodies per 100 gram ND Pharma Colostrum

**IgG** 35 – 45 g 75% of all Immunoglobulin, half-life-period 22 days; neutralizes toxins and bacteria; opsonizes, so that killer cells can destroy intruders.

**IgA** 2,5 – 5,0 g First immunological barrier against antigens that enter the mucous membranes.

**IgM** 3,0 – 5,0 g Increased in case of ongoing.

**IgD** Main component of surface membranes and many B-cells, plays an important role in the lymphocyte-differentiation triggered by antigens.

**IgE** Connects to: basophile mast cells, mucous membranes of the eyes and the bronchia.



## Vitamins per 100 gram of ND Pharma Colostrum

**(Vitamin A)** 1400 – 1600 µg Function and formation of skin, mucous membranes, blood cells, metabolism, seeing, cartilage tissue.

**(Vitamin B1)** 600 – 700 µg water-soluble vitamin indispensable to life, exists in all organs and tissues, heart, liver, kidneys, brain, skeletal muscles, metabolism, especially lipo-metabolism and carbohydrate metabolism, energy generation by decomposition of glucose (sugar), central nervous system.

**(Vitamin B2)** 2500 3500 µg Principally in the liver, kidney, heart, involved in controlling neuro-hormones and amines of the central nervous system. Influences the metabolism of carbohydrates, amino acids, fatty acids, and other vitamins.

**(Vitamin B3)** 90 µg Involved in the metabolism of proteins, fat, and carbohydrates, decreases the cholesterol level, influences the calcium carbonate balance, nerves, influences impaired genetic information, enhances gall bladder synthesis, vasodilatatory.

**(Vitamin B5)** 310 µg Growth & reproduction, energy metabolism of the cells, utilization of proteins and amino acids.

**(Vitamin B6)** 150 –200 µg Influences the elasticity of the connective tissues, involved in blood clotting, immune functions and realization of muscle functions, hormone metabolism.

**(Vitamin B9)** 60 – 70 µg Cell function, cell division, formation of cells and cell differentiation, influences the formation of red and white blood cells, mucous tissue, high concentration in the bone marrow, gastrointestinal tract, muscle tissue and in the liver.

**(Vitamin B12)** 0,5 – 0,8 µg Involved in haemato-formation (red blood cells), protein and amino acid metabolism, growth, cell division, and cell maturation.

**(Vitamin C)** 3100 – 3300 µg Involved in the formation of bones, teeth, gums, blood, immune system, infection defense, antioxidant, increases utilization of iron.

**(Vitamin D3)** 3,1 – 3,5 µg Mineralization of bones.

**(Vitamin E)** 300 – 350 µg Antioxidant, reduces oxidation of fat, protein metabolism, protection of cell membranes, reduces the risk of thrombosis, immune defense.

**(Coenzyme Q10)** 50 – 80 µg Antioxidant, protection of cells, strengthening of the immune system, heart, lungs, liver.

## Free amino acids per 100 gram of ND Pharma Colostrum (i)

**Alanine** 1170 mg Energy supply for the cells, influences the blood sugar level.

**Arginine** 1080 mg Relaxation of the vascular walls, blood circulation by relaxation of vascular walls, blood pressure reduction, stimulation of growth hormone from the hypophysis.

**Aspartic Acid** 504 mg Cell energy, detoxication of tissue, protection of the central nervous system, endurance in physical activity, mineral absorbing power, muscle formation, influences metabolism activity in the brain and the nerves, formation of DNS & RNS, protects liver and kidney (purification).

**$\beta$ -Alanine** 50,4 mg Energy supply, influences blood sugar level, precursor for the synthesis of glucose, formation of glucagon, function of prostate.

**$\beta$ -Aminoisobutyric Acid** 144 mg Not specified.

**Citrulline** 201 Not specified.

**Cysteine** 43,2 mg Influences strengthening of the roots of hair, build-up of hair and nails, increases wound healing, mucolytic with asthma and cough, detoxicate and relieves the liver, often used as a therapeutic agent with heavy metal poisoning, strong antioxidant, used to prevent radiation

**Glutamine** 1296 mg Formed by glutamic acid, muscle formation, cell metabolism, influences the ability for regeneration of the body in sleep.

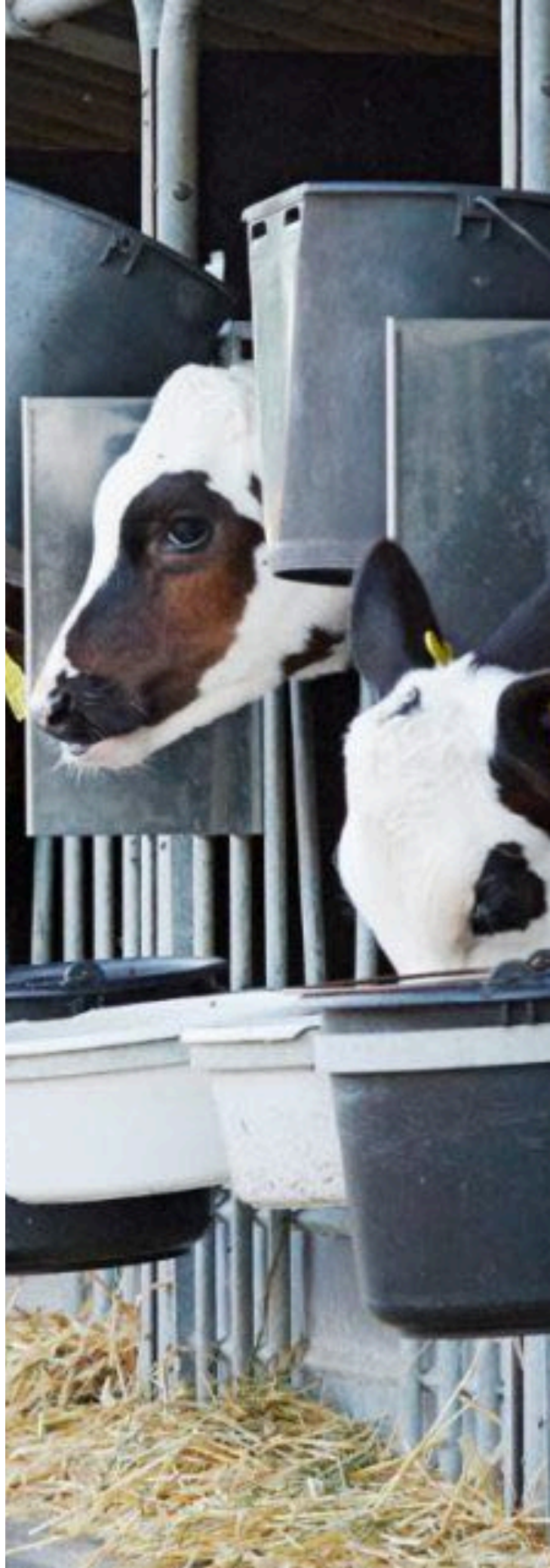
**Glutamic Acid** 87200 mg Forms glutamine, binding of cellular toxins.

**Glycine** 6084 mg Protein component, nervous system, antioxidant properties, anti-inflammatory, metabolic function, haematosi, lipometabolism.

**Histidine** \* 144 mg Place for binding of iron in blood pigment hemoglobin and muscle pigment myoglobin, blood buffer.

**Isoleucine** \* 936 mg Muscle energy, protein storage, nerve and muscle.

**Leucine** \* 1800 mg Muscle energy, protein storage, nerve and muscle function.



## Free amino acids per 100 gram of ND Pharma Colostrum (ii)

**Lysine** 842,5 mg Growth, tissue repair, formation of enzymes, formation of hormones, formation of antibodies, collagen synthesis, bones.

**Methionine** \* 230,4 mg Sulphureous, proteinogenic amino acid, prevents urinary tract infections and fat depositing in the liver, regeneration of liver and kidneys, anti-bacterial, binding of heavy metals, cell metabolism, anti-depressive effect.

**Ornithine** 122,4 mg Strengthening of the immune system, enhances the formation of leukocytes, muscle formation, lipid catabolism, detoxication and purging of ammonia, counteracts insomnia, protection and regeneration of the liver.

**Phenylalanine** \* 972 mg Enhances memory performance, influences appetite, elimination of harmful substances through kidneys and bladder, pain killer, antidepressant effect.

**Phosphor ethanolamine** 5760 mg Not specified.

**Phosphor serine** 1872 mg Not specified.

**Proline** 11440 mg Essential for the formation of collagen, that is the protein that connective tissue and bones are made of, increases the activity of enzymes in cytoplasm.

**Serine** 1008 mg Formation of neurotransmitters, formation of DNA, part of enzymes.

**Taurine** 14560 mg Growth of eyes and brain, CNS, retina of the eyes, thrombocytes, component of smaller proteins and of neurotransmitters, soothing, restorative, antioxidant effect, liver restorative.

**Threonine** \* 576 mg Growth, metabolism of uric acid, immune system, protein metabolism, formation of enzymes and hormones, strengthening of the immune system, formation of Immunoglobulin and antibodies, health of the thymus gland.

**Tryptophan** \* 1440 mg Protein synthesis, metabolism of the liver, formation of serotonin, circadian rhythm.

**Tyrosine** 720 mg Synthesis of proteins that are produced naturally in the body, hormones, neurotransmitters, precursors of melanin and the thyroid hormone thyroxin.

**Valin** \* 2016 mg Energy source for muscles, muscle formation, stress amino acid, glycogen-effective amino acid, function of nerves and muscles \* = essential amino acid.



## Minerals per 100 gram of ND Pharma Colostrum

**Sodium (Na)** 170 mg Essential for water balance, serum, blood pressure, acid-base-balance, muscle relaxation, transport of nutritive substances.

**Potassium (K)** 345 mg Essential for energy, water and electrolyte balance of the cell, the cardiovascular system, function of the nerves, muscle contractions, kidneys, activation of enzymes, activity of the myocardial muscle, acid-base-balance.

**Calcium (CA)** 550 mg Component of the human skeleton, involved in growth, nerves, blood clotting, messenger in cell metabolism, involved in cell development, stabilizes cell walls, bones, teeth, muscle function.

**Magnesium (Mg)** 200 mg Bone formation, teeth, muscles of the heart and the skeleton, involved in enzyme reactions, amongst others, it plays an important role in the metabolism of carbohydrates, proteins and fats as well as in cell division, transmission of nerve-impulses.

**Iron (Fe)** 0,3 mg The most frequent trace element in the body, important for the transport of oxygen and its storage, strengthens the immune system, important for erythrocytes (red blood cells), hemoglobin (red blood pigment), myoglobin (oxygen depot of the muscles), liver, spleen and bone marrow.

**Copper** 0,07 mg Is involved in many body functions, antioxidant, haematosi s, energy generation, immune system.

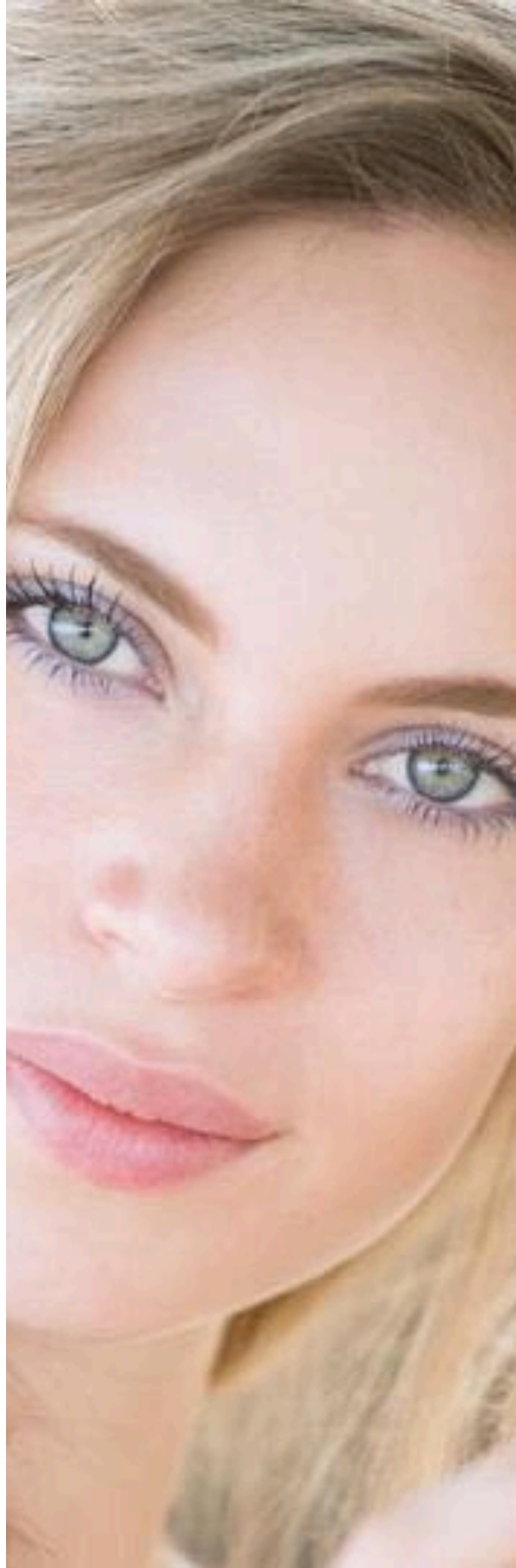
**Chromium** 0,02 mg Important for a better uptake of glucose in the body, muscle formation, reduces cholesterol level, increases the fat burn.

**Manganese (Mn)** 0,01 mg Activates important enzymes in the body, bones, cartilage and connective tissue.

**Zinc (Zn)** 0,06 mg Enhances wound healing, protein synthesis, insulin production, important for growth and maturation, insulin storage, important functions in the cells, e.g. protects the cell membranes, involved in the metabolism of growth hormones, thyroid hormones and sex hormones, influences the functioning of the senses (smell, taste, see, hear).

**Phosphoric Acid (P)** 600 mg Metabolism, bones, teeth, cell nuclei and cell membranes, energy balance cell.

**Selenium (Se)** 0,004 mg Often used as a therapeutic measure in case of anemia, protects the cells from ill effects, heavy metals and other straining substances, radical interceptor.



For more information, contact us now: [info@ndpharmabiotech.com](mailto:info@ndpharmabiotech.com) | [www.ndpharmabiotech.com](http://www.ndpharmabiotech.com)

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