



UDDERLY COLOSTRUM

Natural Whole Colostrum



PREMIUM, WHOLE

First Milking Colostrum

- First-Milking**
Highest in IgG-1
- Bioactive Peptides**
Full-Spectrum PRPs
- Immunoglobulins**
G,A,M,E,D
- Unfractionated**
Full-Spectrum Lipids
- Liposomal Delivery**
Enhanced Absorption
- cGMP Compliant**
Third-Party Tested



What is Whole Colostrum?

Whole colostrum, nature's perfect first food, is the pre-milk substance produced by female mammals during the first 24 hours of lactation. Whole colostrum supplies immune and growth factors and a perfect combination of naturally occurring vitamins and minerals to support the health, vitality and growth of the newborn.* It also contains essential nutrients, trypsin and protease inhibitors that protect it from destruction in the GI tract.* It is estimated that colostrum triggers at least fifty processes in newborns.* Bovine colostrum is biologically transferable to all mammals, including humans, and is much higher in immune factors than human colostrum.*

- **Naturally Occurring Growth Factors**
- **Essential Nutrients**
- **Biologically Transferable To Humans**

Laboratory analyses of immune and growth factors from bovine colostrum are identical to those found in human colostrum, except for the fact that the levels of these factors are significantly higher in the bovine version. For example, human colostrum contains 2% of IgG, the most important of the immunoglobulins found in the body, while bovine colostrum contains 20% of IgG. Studies indicate that all mammals, including humans, benefit from the immune-supporting properties of bovine colostrum.*

Only high-quality colostrum is taken from cows that have been certified free of antibiotics, pesticides and synthetic hormones. Colostrum must be processed at low temperatures so that the immune and growth factors remain biologically viable.*



Calf-First Reassurance

Whole colostrum can only be collected during the first milking, which is after birthing of the calf. Udderly Colostrum comes with a calf-first reassurance, meaning that the needs of the newborn calf are met first before collection of colostrum. Udderly Colostrum is only taken after the calf has had its fill. Then the surplus is stored for the calf to consume later.

Not Just for Newborns

In mammals, colostrum is crucial for passing on immunity to offspring, but it's not just for newborns. Colostrum is also beneficial for people of all ages when consumed as a supplement. Over the years, our immune system may venture off track or weaken. Whole colostrum helps remind the gut and thymus how to get back on track.*

Powerful Support for Overall Wellness*

The amazing nutrients, vitamins, minerals, immunoglobulins, and bioactive polypeptides found only in whole bovine colostrum provide comprehensive support for all ages.*

Immune Support*

Whole colostrum is rich in immunoglobulins and bioactive PRPs that help reintroduce key responses to the immune system.* When the system veers off course, these factors may help steer it back.*

Gut Support*

In addition to supporting the immune system, which could play a role in positive gut health, oligosaccharides may help strengthen the gut barrier by promoting the development of the mucosal lining.* Restoring this crucial layer helps all across the body from immune response to a positive gut-brain axis.*

Cognitive Support*

Bovine colostrum may help with cognitive function, and some studies have shown that it can improve cognitive function in older adults.*¹

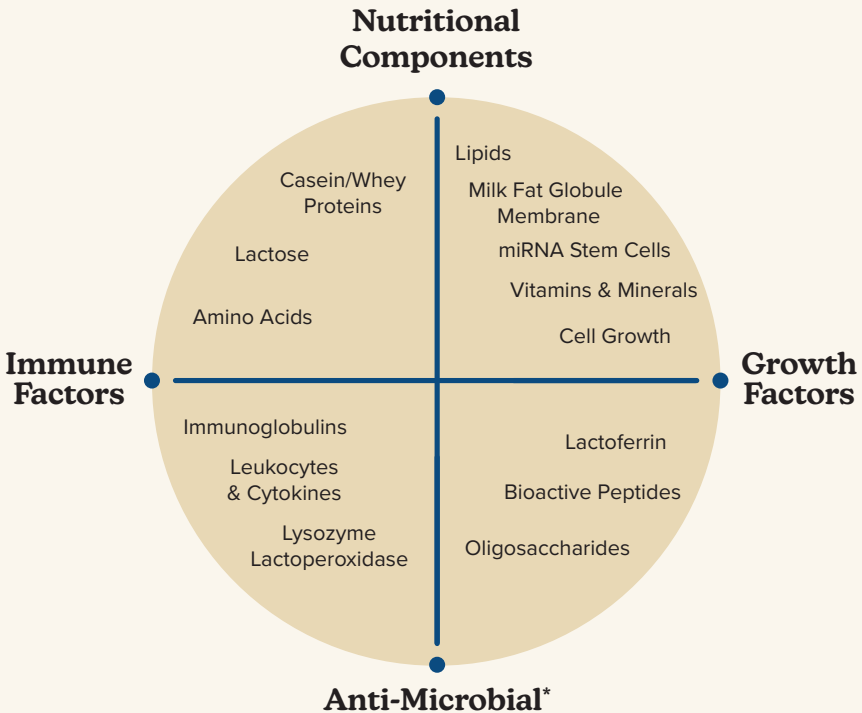
Skin, Muscle and Bone Support*

Whole colostrum contains IgF-1 and IgF-2 growth factors that may help support lean muscle mass and bone density.*

Hair, Skin and Nail Support*

Research has shown the exosomes in colostrum support the proliferation of hair DP and fibroblast, while also supporting follicles against DHT-induced arrest.*²

Major Components of Whole Colostrum



Note: If pregnant or nursing, consult your healthcare practitioner before using any nutritional supplement.

*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.

Four Major Components of Whole Colostrum



Immune Factors - Anti-Viral* - Growth Factors - Nutritional Components



Immune Factors

Immunoglobulins (G, A, M, E and D) are the most abundant of the immune factors found in colostrum. IgG neutralizes toxins and microbes in the lymph and circulatory system; IgM destroys bacteria; while IgE and IgD may have some antiviral properties.*³ High quality colostrum must be certified to contain a minimum of 16% immunoglobulins. *More information on page 10*

Lactoferrin helps deprive bacteria of the iron they require to reproduce and releases iron into the red blood cells enhancing oxygenation of tissues.* Lactoferrin helps modulate cytokine release and its receptors have been found on most immune cells including lymphocytes, monocytes, macrophages and platelets.*

Bioactive Peptides (PRPs) help regulate the thymus gland, supporting the body's production of cytokines.* *More information on page 12*

Leukocytes support the production of interferon, which slows viral reproduction and penetration of cell walls.*⁵

Enzymes Lactoperoxidase-thiocyanate, peroxidase and xanthine help oxidize bacteria through their ability to release hydrogen peroxide.*

Lysozyme is a hydrolyzing agent capable of destroying bacteria on contact.*

Cytokines are interleukins that regulate the duration and intensity of the immune response, are responsible for cell-to-cell communication and boost T-cell activity and the production of immunoglobulins.*

Trypsin Inhibitors and Protease Inhibitors prevent the destruction of immune and growth factors in colostrum from being broken down in the GI tract.* They also prevent *H. pylori* from attaching to the walls of the stomach.*

Lymphokines are hormone-like peptides produced by activated lymphocytes which mediate the immune response.*

Oligo Polysaccharides and Glycoconjugates attract and bind to pathogens preventing them from attaching or entering the mucous membranes.*

Other Immune Factors Found in Colostrum These documented immune factors include secretory IgA, IgA Specific Helper, B Lactoglobulin, Lactalbumin, Albumin, Prealbumin, Alpha 1-Antitripsin, Alpha 1-Fetoprotein, Alpha 2-Macroglobulin, Alpha 2-AP Glycoprotein, C3, C4 and Orosomucoids.



Anti-Viral*

Streptococcus thermophilus is a non-pathogenic, essential lactic acid bacterium that is capable of generating energy, in the form of adenosine triphosphate (ATP), by aerobic respiration with the presence of oxygen.* However, even without the presence of oxygen, it still can produce ATP through fermentation.* *S. thermophilus* lacks cytochrome, oxidase, and catalase enzymes and does not have motility and does not form spores.* Although *S. thermophilus* is closely related to other pathogenic streptococci, it is classified as a non-pathogenic, alpha-hemolytic species that is part of the viridians group. The increasing consumer need and booming manufacture of dairy products led to the investigation and sequencing of *S. thermophilus*. These harmless lactic acid producers were effective in suppressing spoilage and the growth of pathogenic organisms.*

Viral: About 75% of the antibodies in the body are produced by the GI component of the immune system. The ability of some patients to fight infectious disease may be severely compromised by and partially due to damage to the gut. Several studies report colostrum's role supporting this problem stemming from opportunistic infections.* Colostrum is composed of numerous beneficial factors, especially the immunoglobulins, lactoferrin and the cytokines.

6,10-12,14,22,29, 35

Orotic Acid stops the formation of pyrimidine nucleotides and helps with hemolytic anemia.*



Growth Factors

Epithelial growth factor (EgF)
Insulin-like growth factor-I & II (IGF-I & IGF-II)
Fibroblast growth factor (FgF)
Platelet-derived growth factor (PDGF)
Transforming growth factors A & B (TgA & B)
Growth hormone (GH)

All of these factors help stimulate cell and tissue growth by stimulating DNA formation.*²⁵ IGF-1 and GH are found naturally and in high concentrations in colostrum.* Several studies show that these growth factors are capable of increasing T-cell production, balancing blood glucose, increasing muscle and bone growth and repair while metabolizing fat for fuel.*^{15,27} A 1990 study in *The New England Journal of Medicine* concluded that GH treatment prevented some of the signs of aging.*²⁸ In his study, Dr. Daniel Rudman treated 26 men between the ages of 61-80 with GH. Patients experienced a decrease in overall body fat (of up to 14%), an increase in bone density and lean muscle mass.* In addition, their skin was thicker and more elastic.* Rudman said the changes were equivalent to those incurred over a 10-20 year period of aging.

Nutritional Components

Colostrum naturally contains vitamins, minerals and amino acids that occur in perfect combination. Vitamins A, B1, B2, B6, B12 and E are found, while traces of all other vitamins, as well as minerals such as calcium, sodium, magnesium and zinc, are also present. Colostrum is a rich source of both essential and non-essential amino acids, as well as essential fats, including phospholipids, which enable colostrum protein protection and easy absorption in the gut by forming liposomes around them.*

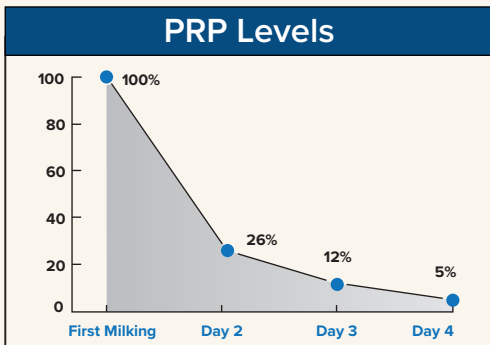
Sulfur is a mineral with multiple uses in metabolism and as part of many structural body proteins.



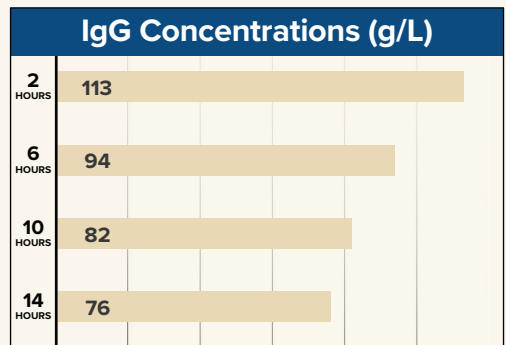
First-Milking Whole Colostrum

Our Colostrum is Obtained Exclusively from the First Milking

First-milking colostrum is the milk in the udder of the mother when the calf is born. It provides the highest amounts of important bioactive components. Unfortunately, much of the colostrum available today is from the third or fourth day after birth. We accept only the first-milking colostrum, after the calf gets all it needs. Each farm's collection is tested to ensure the colostrum is only from the first milking and is free of antibiotics, harmful bacteria and other contaminants.



After the first milking, PRP levels drop 75%.



IgG concentration declines with each milking after birth.

Source: Moore M, Tyler JW, Chigerwe M, Dawes ME, Middleton JR. Effect of delayed colostrum collection on colostral IgG concentration in dairy cows. *J Am Vet Med Assoc.* 2005 Apr 15;226(8):1375-7. doi: 10.2460/javma.2005.226.1375. PMID: 15844432.

What about Lactose Intolerance?

Milk allergies are caused by the large milk proteins, primarily casein, and to a lesser extent the immunoglobulins. Lactose itself is a food allergen, PRPs help modulate the interleukin levels in the body thereby greatly diminishing the probability of an immune response.* Interleukins are a group of cytokines, or signaling molecules, primarily produced by leukocytes and other cells, that play a crucial role in regulating immune responses and mediating inflammation.^{16,30,31,34,39}

Because tolerance levels vary from person to person, there is no defined minimum amount of lactose required to induce an immune reaction in lactose intolerant individuals. However, in a double blind study, 13 healthy individuals with lactose intolerance were given up to 20 grams of lactose without the appearance of significant symptoms.⁴³

Product	Lactose Content (Per 100 g)
Whole Milk Powder	40-45 g
Whole Colostrum	15 g
Skim Colostrum	5.9 g

Source: Keech, Andrew M. *Peptide Immunotherapy: Colostrum: A Physician's Reference Guide*. AKS Publishing (pg256), 2009.

Udderly Colostrum powder's recommended serving size is one 10 gram scoop. Based on the numbers above, that would equate to approximately 1.5 g of lactose per serving. This illustrates that most individuals are likely to tolerate the recommended dose without issue.*

DISCLAIMER: These statements are for informational purposes only and is not meant to replace the services or recommendations of a physician or qualified health care practitioner. Those with health problems or pregnancy are specifically advised that they should consult their physician before taking colostrum.

The Lowest Levels of Lactose are Found in the First-Milking

Proportions of various components of colostrum at different times following birth.

Time After Birth	Total Protein %	Casein %	Albumin %	Fat %	Lactose %	Ash %	Total Solids %
0 hours	17.57	5.08	11.34	5.10	2.19	1.01	26.99
6 hours	10	3.51	6.30	6.85	2.71	0.91	20.46
12 hours	6.05	3.00	2.96	3.80	3.71	0.89	14.53
24 hours	4.52	2.76	1.48	3.40	2.98	0.86	12.77
36 hours	3.98	2.77	1.03	3.55	3.97	0.83	12.22
72 hours	3.86	2.70	0.97	3.10	4.37	0.84	11.86

Source: Keech, Andrew M. *Peptide Immunotherapy: Colostrum: A Physician's Reference Guide*. AKS Publishing (pg63), 2009.

By the third day after birth, lactose content doubles.

Note: If pregnant or nursing, consult your healthcare practitioner before using any nutritional supplement.

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Typical Profile of Whole Colostrum vs Skim



UDDERLY COLOSTRUM

FIRST-MILKING

Whole Colostrum

(Typical Whole Colostrum Profile)

- ^ Higher in Essential Lipids
- v Low Lactose Content (15%)
- Natural IgG Amount (20%)
- ^ Highest in Beneficial IgG-1
- Natural IgG-2 Amount



FRACTIONATED

Skim Colostrum

(with milk powder)

- v Low in Essential Lipids
- ^ High Lactose Content (~35%)
- ^ Inflated IgG Amount (40%)
- v Low in Beneficial IgG-1
- ^ High IgG-2 Amount

Disclaimer: This infographic is intended for informational and illustrative purposes only. Based on the typical profile of whole colostrum.

Whole colostrum has not been skimmed or fractionated, meaning it retains all its important components, bioactives and natural fats. The natural fats and lipids found in whole colostrum are essential to help the absorption of fat-soluble vitamins like A, D, and E.

Is More IgG Better?

Don't be deceived by colostrum products that contain more than the naturally occurring 20% IgG. Some companies spike IgG amounts using milk powder. While a higher IgG content may look enticing, this disrupts the natural balance in colostrum and results in a higher lactose content. It's also much lower in the superior IgG-1.

For more information on IgG-1 vs IgG-2, see page 10.

Udderly Colostrum never uses milk powder filler. This formula contains only natural first-milking whole colostrum, in order to provide the superior benefits of IgG-1 and a full-fat spectrum.*

Udderly Colostrum contains only natural, whole first-milking colostrum, in order to provide the superior benefits of IgG-1 and full-spectrum lipids.*



Beware of Milk Powder Filler

In order to boost IgG levels, some manufacturers may use milk powder as a filler which is high in IgG-2 but very low in IgG-1. This increases the level of IgG beyond its naturally occurring ratio. By doing this, other manufacturers' products lose out on the incredible health benefits of IgG-1, the factors that health professionals are actually looking for.*

Udderly Colostrum never uses milk powder filler. This formula contains only natural whole colostrum, in order to provide the superior benefits of IgG-1 and a full-fat spectrum.*








Immunoglobulins (Ig)

Immunoglobulins (A, D, E, G and M) are the most abundant of the immune factors found in colostrum. IgG neutralizes toxins and microbes in the lymph and circulatory system; IgM destroys bacteria; while IgE and IgD are highly antiviral.*²⁵

Immunoglobulin Subclasses

Colostrum contains classes of antibodies G, A, M, E, and D. Of the five immunoglobulins, IgG is the most common type of antibody found in human serum. Colostrum is often branded and differentiated by the amount of IgG it contains; however, there are two subsets of ImmunoglobulinG found in bovine colostrum – IgG-1, IgG-2.⁴¹

Immunoglobulin	Properties	Structure
IgG subclasses: IgG-1 & IgG-2	IgG is the most predominant antibody found in bovine colostrum and imparts systemic immunity. ³⁹	
IgA	IgA found in colostrum has a protective protein attached to it to protect against digestive enzymes. Its main function is gastrointestinal support.* ³⁹	
IgM	IgM is the first antibody produced in response to an antigen. ³⁹	
IgE	IgE is involved in allergic responses to antigens, and binds to mast cells and basophils. ³⁹	
IgD	Part of the B cell receptor. Activates basophils and mast cells. ³⁹	

IgG-1

Highest levels are found in first-milking whole colostrum

Support for intestinal barrier function*

Superior immune support*

IgG-2

The predominate type of IgG found in later milkings

Lower in specific antibodies

Cannot be re-secreted at mucosal surfaces

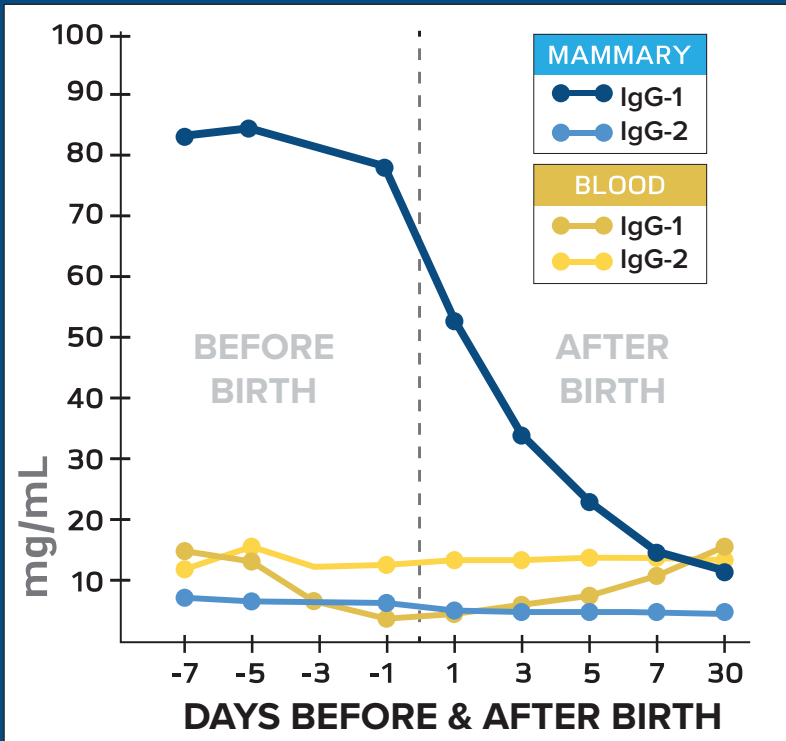
IgG1 vs IgG2

IgG-1 provides superior immune system support with proven levels of antibodies specific to help the body in times of need.* The highest amounts of IgG-1 are found in first-milking colostrum.^{40,41}

IgG-2 is primarily derived from plasma cells localized in the udders of the cow. Immunoglobulin G2 cannot be re-secreted at mucosal surfaces. According to research, IgG-2 in milk contains antibodies related to only pathogens localized in the udder, not a full-spectrum needed for supporting the intestinal barrier.⁴²

Concentration of IgG-1 & IgG-2 in Blood Plasma and Mammary Secretions

This graph shows concentrations of IgG1 and IgG2 in blood plasma and mammary secretions in a cow before and after parturition. Although the measured concentrations varied among cows, the actual changes (percent basis) that occurred were similar.



Source: Sasaki M, Davis CL, Larson BL. Production and turnover of IgG1 and IgG2 immunoglobulins in the bovine around parturition. *J Dairy Sci.* 1976 Dec;59(12):2046-55. doi: 10.3168/jds.S0022-0302(76)84486-4. PMID: 1010882.



Bioactive Peptides

Bioactive Peptides (including PRPs) are information-carrying proteins with amazing adaptability.* They support the body's balanced production of cytokines by sending signals via specific cell receptor sites.* PRPs also support the thymus gland, which is known as the body's central command for the immune system.*

The Physiological Functions of Full-Spectrum Bioactive Peptides – PRPs

Clinically Researched & Scientifically Validated

PRPs help modulate the immune system, promote T-lymphocyte function and can stimulate the lymphocytes to become either helper T-cells or suppressor T-cells.*³⁶

Helper T-cells activate B-lymphocytes by presenting an antigen to the B-cell. The B-cell then produces antibodies to that protein.⁷ Helper T-cells also help produce memory T-cells, which retain the “memory” of the antigen to shorten the response time in cases of new infection.³²

Suppressor T-cells deactivate other lymphocytes, effectively turning off the immune response to avoid damage to healthy tissue.³⁸

PRPs also help stimulate the production of a whole range of cytokines, particularly cytokines TNF- α and INF- γ ,¹³ and cytokines IL-6 and IL-10.*³⁷ PRPs act as molecular signaling devices, working through specific receptors on cell surfaces.*²⁰

PRPs act like a hormone in the thymus gland by enhancing thymocytes (immature lymphocytes) to differentiate and become either helper T-cells or suppressor T-cells.*

Helper T-cells are a vital part of the immune response that stimulates the production and differentiation of cytotoxic T-cells and B-cells, attract white blood cells, and stimulate macrophages to engulf and destroy pathogens.

Suppressor T-cells inhibit the production of cytotoxic T-cells to prevent tissue damage and suppress the immune response, when no longer needed.

PRPs stimulate production of cytokines by peripheral blood cells.* The types of cytokines stimulated by PRPs depend on the antigenic stimulation present or the activity state of the immune system (underproductive or overproductive).*

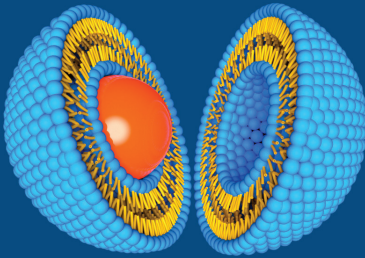
Liposomal Nutrient Delivery

Liposomes Easily & Effectively Deliver Nutrients into Cells

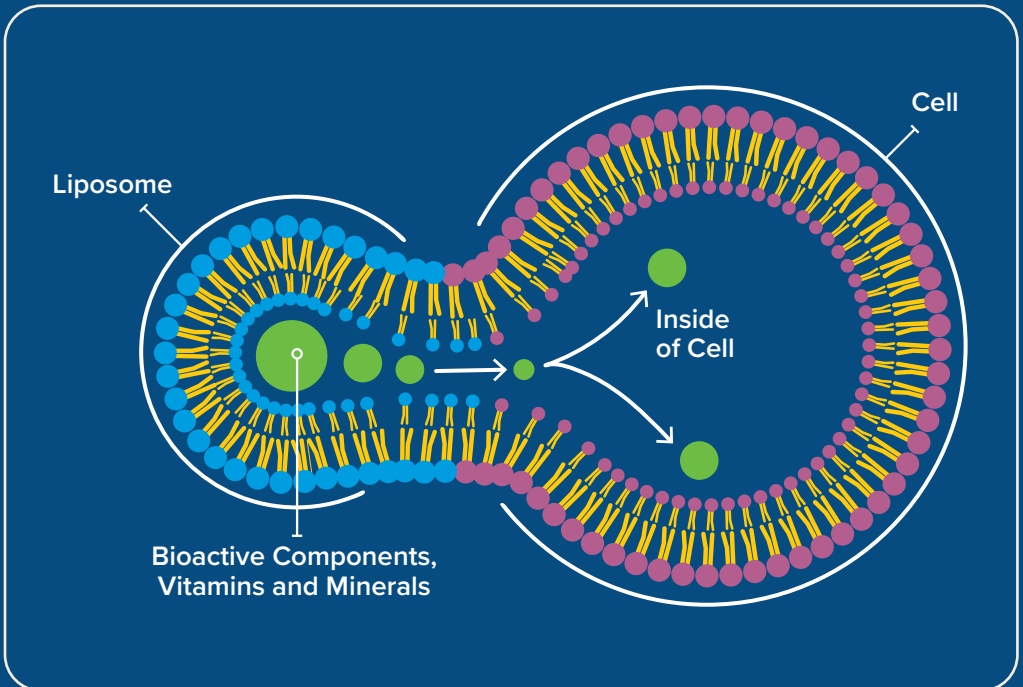
Colostrum, as it is found naturally, delivers nutrients in a liposomal form by way of the natural fats and phospholipids it contains. Udderly Colostrum includes non-GMO sunflower lecithin enhancing the delivery and absorption even further.^{44,45}

Unique properties of liposomes allow them to act as delivery vehicles — effectively delivering nutrients intracellularly, increasing nutrient absorption across transmucosal membranes and protecting nutrients from the harsh environment of the gastrointestinal tract.

Since the nutrient core is surrounded by a lipid layer, it is very easy for the inner lipid layer of the liposome to penetrate lipid membranes and deliver the nutrients.



3D rendering of a liposome split in half. Lipid layers shown in blue, nutrient core shown in orange.





UDDERLY COLOSTRUM

Natural Whole Colostrum

Specifications:

- Available in
10.58 oz. (300 g)
- Serving Size
1 scoop (10 g)

Directions:

Mix one scoop (10 g) in chilled water or other beverage once per day or as directed by your healthcare practitioner.



Udderly Colostrum is a natural, whole bovine colostrum providing a full spectrum of immunoglobulins and bioactive polypeptides, including IgG and PRPs. This natural formula is also processed utilizing a specialized pasteurization method that preserves maximum biological activity and efficacy.

Many colostrum products are produced in a way that they lose essential colostrum polypeptides (PRPs). This formula is carefully processed for maximum biological activity and is antibiotic-free.*

Amount Per Serving

Calories	45
Total Fat	2 g
Saturated Fat	1.5 g
Cholesterol	20 mg
Total Carbohydrate	2 g
Total Sugars	2 g
Protein	5 g
Sodium	25 mg
Whole Bovine Colostrum	10 g
Immunoglobulin G (IgG) (2,000 mg)	
Colostrum Polypeptides (PRPs)	
Lactoferrin	

Other Ingredients: Sunflower lecithin (non-GMO) (liposomal delivery).

Contains: Milk.

Does Not Contain: Eggs, fish, shellfish, tree nuts, peanuts, wheat, soy, artificial colors, sweeteners or preservatives.

Caution: Do not use if you are pregnant or if you have received an organ transplant. Keep out of reach of children.

Typically Provides

Vitamins

Vitamin A	Thiamin
Vitamin C	Riboflavin
Vitamin D	Vitamin B-6

Essential Amino Acids

L-Isoleucine
L-Leucine
L-Lysine
L-Methionine
L-Phenylalanine
L-Threonine
L-Valine

Non-Essential Amino Acids

L-Alanine L-Glycine
L-Arginine L-Histidine
L-Aspartic Acid L-Proline
L-Cysteine L-Serine
L-Glutamic Acid L-Tyrosine

Quality You Can Trust

Udderly Colostrum comes from the highest quality whole colostrum in the industry and is backed by multiple quality control processes.



Calf-First Reassurance

Our manufacturers work closely with our dairy farmers to ensure calves always get what they need to survive and thrive in their new environment, first and foremost. They drink all they can consume, then we carefully collect and preserve the rest using our proprietary process.

USDA Grade A Dairies

Our Bovine Colostrum is harvested from trusted, Grade A US dairy farms. Our strict protocols ensure the highest quality bioactives in the industry and advances our position as the colostrum technology leader.

Premium Colostrum Collection

- ✓ **Calves feed first**, and excess is collected in individual containers
- ✓ **Certified for traceability/testing**, then frozen immediately at the farm
- ✓ **Transported via refrigerated trucks**, then slowly thawed (never over 45°F)
- ✓ **Nutrients analyzed**, with data sent to farmers for continuous improvement
- ✓ **Pasteurized at 161 degrees for 15 minutes**, under proprietary methods to ensure the highest level of bioactives
- ✓ **Independent lab tests**

Quality Assurance

With many years of farm-direct relationships and experience along with our proprietary process, every batch is traceable from the farm and every customer is assured of a premium formula to achieve their goals. Each batch undergoes strict internal and third-party lab analysis for purity and potency with targeted level components.



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