



Available in about 25 servings powder and 120 capsules

- Helps to support the immune system and immune function within the upper respiratory tract

Discussion

Beyond Colostrum: Immunoglobulin Concentrate from Colostral Whey Peptides

IgG 2000 CWP is the result of advanced coagulation and filtration technologies that separate bioactive substances and then concentrate them. These precise systems produce a potent, pure, and generally recognized as safe (GRAS) immunoglobulin concentrate from colostrum whey peptides. IgG 2000 CWP provides immunoglobulins, including a minimum of 40% IgG; bioactive and growth factors; oligosaccharides; and gangliosides. Each of these components provides the user with different and complementary health benefits (see Chart).^{*[1]}

Immunoglobulins

Oral consumption of immunoglobulins derived from colostrum is a means of supporting passive immunity.^[2-5] Immunoglobulins flag antigens for the immune system. In doing so, immunoglobulins become key participants in protecting the body and eliminating unwanted molecules. IgG 2000 CWP delivers immunoglobulins and is particularly high (minimum of 40%) in IgG. Among immunoglobulins, IgG is said to be the most versatile, carrying out all of the functions of immunoglobulin molecules.*

Bioactive and Growth Factors

Sialic acid is an essential component of mucins, glycoproteins, oligosaccharides, and gangliosides and is therefore important to the function of cell membranes and membrane receptors. It is also important for normal brain development. Sialic acid-containing oligosaccharides in bovine colostrum can prevent certain antigens from binding to host tissues. Lactoferrin is an immune-supporting, iron-binding glycoprotein naturally found in bovine colostrum. It plays an important role in immune regulation and in the body's defense mechanisms.^[6] Studies suggest that growth factors from bovine colostrum, including IGF-1 (insulin-like growth factor) and TGF (transforming growth factor), stimulate cell growth in the gut to strengthen the gut lining, help build lean muscle mass, and slow protein catabolism.^[1] Furthermore, improvements observed in exercise performance by athletes taking colostrum have been attributed to growth factors.*

Proline-Rich Peptides

Proline-rich peptides (PRPs), which were first isolated from ovine colostrum and later from bovine colostrum, are intercellular signaling molecules. They act as regulatory substances that have the unique ability to modulate and stabilize various biologic processes in the body, such as cytokine and immune processes.^[1] The in vitro and in

vivo effects of PRPs on immunoregulation, including their effects on the maturation and differentiation of thymocytes and humoral and cellular immune responses, have been demonstrated. Also of great interest are the many studies suggesting their beneficial effects on age-associated changes in neurological health.^[7] For instance, in vivo work revealed that PRPs alleviate beta-amyloid cytotoxicity in hippocampal neuronal cells; in humans, PRPs provided an early beneficial effect on cognitive symptoms and daily functioning at a dose as low as 100 mcg/d every other day.^[8,9] Five grams of powder or eight capsules of IgG 2000 CWP provides 1% to 2% (50 to 100 mg) PRPs.*

Oligosaccharides

Bovine milk oligosaccharides, which are a component of lactose, are modulators of gut microbiota. They provide protection by acting as decoys to attract antigens and inhibit them from binding to epithelial surfaces of the intestine.^[10] Evidence also suggests that oligosaccharides act as growth promoters for a selected class of beneficial bacteria^[11] and contribute to the development and maturation of the intestinal immune response.^[12] Approximately 66 acidic and neutral oligosaccharides, including sialyloligosaccharides, which are known for their high biological activity in humans, have been detected in IgG concentrate from colostrum whey peptides.^{*[13]}

Gangliosides

Gangliosides are vital to the structure and function of cell membranes. They support neural development, and they have roles in supporting gut integrity, influencing immune cell signaling, modulating cytokine activity and production, and affecting the adherence and toxin production of antigens.^[14-17] Research has demonstrated that providing gangliosides in the diet increases ganglioside content in the intestinal mucosa. Studies have indicated that low levels of gangliosides in the intestinal mucosa are associated with increased levels of cytokines, susceptibility to antigens, and poor gut integrity.^[14] The ganglioside composition of bovine milk is predominately GM3 and GD3.^{*[15]}

IgG 2000 CWP Studies

Building on the extensive literature pointing to the health benefits associated with bovine-derived colostrum and colostrum whey, scientists performed in vitro, in vivo, and human clinical studies using IgG 2000 CWP to demonstrate its bioactivity and effectiveness. In vitro, IgG 2000 CWP was shown to support the body's normal repair

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Chart: Bioactive Compounds in CWP 2000

Active	Key Function(s)
Immunoglobulins	Immune support*
Growth Factors	Lean mass support, cell and tissue repair and rejuvenation*
Sialic Acid	Immune modulation, brain health, prebiotic*
Lactoferrin	Immune support*
Proline-Rich Peptides (PRPs)	Immune modulation, brain and thymus support*
Oligosaccharides	Microbiota modulation*
Gangliosides	Immune cell signaling*

CWP 2000 Capsules

Medicinal Ingredients (per vegetable capsule)

Bovine Colostrum Powder (from *Bos taurus*)625 mg

Non-Medicinal Ingredients

Hypromellose capsule, vegetable magnesium stearate, vegetable stearic acid, medium-chain triglycerides, silica.

Recommended Dose

Adults: Take two (2) capsules twice daily or as directed by your healthcare practitioner. For prolonged use, consult a health care practitioner.

Consult a health care practitioner prior to use if you are pregnant or breastfeeding, have a history of cancer, have diabetes, have liver or kidney disease or if you have been instructed to follow a low protein diet, if you suffer from an immune system disorder or if you are taking immunosuppressants.

If you have a known allergy/hypersensitivity to cow's milk, do not use this product.

Keep out of reach of children. Store in a cool dry place. Do not use if tamper seal is broken or damaged.

CWP 2000 Powder

Medicinal Ingredient (Each tablespoon contains):

Bovine Colostrum Powder (from *Bos taurus*)5 g

Non-Medicinal Ingredients

Sunflower lecithin.

Recommended Dose

Adults: Mix 1 tablespoon (5 gm) into 60 - 120 mL water. Take once daily or as directed by your healthcare practitioner. For prolonged use, consult a health care practitioner.

Consult a health care practitioner before using this product if you are pregnant or breastfeeding, if you have a history of cancer, if you have diabetes, liver disease or kidney disease, if you are prescribed to follow a low protein diet if you have impaired immune system or are taking immunosuppressive drugs.

If you have a known allergy/hypersensitivity to cow's milk, do not use this product.

pathways by stimulating the migration and production of gut epithelial cells.^[18] In an in vivo model of gut integrity challenge, rats administered IgG 2000 CWP showed significant improvements in both microscopic and macroscopic mucosal health.^[18] Supplemented dogs showed a significantly higher vaccine response and higher levels of fecal IgA when compared with the control group. These results were indicative of an enhanced immune status. Researchers also observed increases in gut microbiota diversity and stability in the supplemented dogs.^[19] In humans (n = 12), 1000 mg/d of IgG 2000 CWP increased salivary IgA by 30%, improved quality of life scores, significantly increased the ability to perform activities of daily living, improved hyperimmune responses, and reduced minor health complaints by 47%.^[20]

In a randomized, crossover trial (n = 7), a five-day challenge to gut integrity caused a three-fold rise from baseline in gut permeability as measured by lactulose/rhamnose ratios. Co-administration of a 15% IgG colostrum formula inhibited this increase.^[21] When the same researchers compared the RPF[†] (repair and protection factor) of the 15% IgG colostrum formula to IgG 2000 CWP, which is a 40% IgG formula, the IgG 2000 CWP score was two times higher. This suggests that IgG 2000 CWP would offer even greater results in supporting gut integrity than did the 15% IgG colostrum formula.*

[†]RPF is a novel (patent pending) analytical method that evaluates a product's bioactive properties to determine its effectiveness in repairing damaged cells and protecting healthy cells.*

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Additional references available upon request

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