

This information is provided as a medical and scientific educational resource for the use of physicians and other licensed health-care practitioners ("Practitioners"). This information is intended for Practitioners to use as a basis for determining whether to recommend these products to their patients. All recommendations regarding protocols, dosing, prescribing, and/or usage instructions should be tailored to the individual needs of the patient considering their medical history and concomitant therapies. This information is not intended for use by consumers.

IgGI Shield™ combines ImmunoLin® with N-acetyl-D-glucosamine to support the structure of the cells of the intestinal lining and promote a healthy inflammatory response in mucosal cells of the gastrointestinal (GI) tract.* These ingredients work together to provide support to the intestinal barrier and support gut immune health.* ImmunoLin®, a serum-derived bovine immunoglobulin concentrate (SBI), is the only purified, dairy-free source of immunoglobulin G (IgG) available as a dietary supplement. Immunoglobulins play an integral role in the support of healthy immune function at the gut and systemic levels.* N-acetyl-D-glucosamine promotes healthy immune function by promoting a balanced immune response.*

Ingredient Highlights

- 2.5 g of ImmunoLin® SBI per serving to support gut health and promote a healthy mucosal immune system*
- 1.1 g of IgG per serving from ImmunoLin® to support a normal immune response*
- 1 g of N-acetyl-D-glucosamine per serving to support normal immune function and mucosal health*
- ImmunoLin® contains peptides and growth factors that may have a trophic effect on the GI mucosa
- Dairy-free formula

ImmunoLin® (SBI concentrate) is a proprietary, protein-based dietary supplement containing more than 50% immunoglobulins to help support digestive function and promote a healthy mucosal immune system.* SBI may support a normal immune response in the gut by binding to potential microbial antigens.^{1,2} This binding may be in pathogen-associated molecular patterns (PAMPs) or it may be to microbe-associated molecular patterns (MAMPs).^{1,3} When innate immune cells recognize PAMPs, inflammatory pathways, such as nuclear factor kappa B (NF-κB) are activated.³ Continual PAMP binding may contribute to chronic inflammation and associated disorders, including irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), and human immunodeficiency virus (HIV)-related enteropathy.^{1,3} Microbial antigens, such as lipopolysaccharides (LPS), may activate an immune response, especially if they can cross through the epithelium.² The immunoglobulins in SBI have the potential to bind with a wide array of pathogens and foreign antigens.^{1,3} Antigens bound to SBI become larger, making it more difficult to pass through and create an immune response.^{1,2} This process does not adversely affect the commensal bacteria in the gut microbiota, supporting a healthy gut microbiome.*¹ It also promotes a healthy inflammatory response.* SBI also supports gut barrier function and mucosal health.*¹ Inflammation in the intestinal mucosa may impact the structure and function of the intestinal cells, which may contribute to increased mucosal permeability.³ Reducing this inflammation may help support gut barrier function and mucosal health.*⁴

One co-culture model study assessed the efficacy of SBI in binding with common intestinal antigens and the effects on downstream immune responses, including interleukin-8 and tumor necrosis factor alpha (TNF-α) cytokine production.² The researchers used LPS, lipid A (hydrophobic antigenic head of LPS), and Pam3CSK4 (a synthetic TLR2 stimulator that mimics the N-terminal region of lipopeptides found in gram-positive and gram-negative bacteria) as an example of common antigens associated with GI tract inflammation.² There was a dose-dependent response to SBI that bound the free antigens and inhibited cytokine production.²

Studies have demonstrated that SBI may promote mucosal and systemic immune response to infections and reduce markers of GI inflammatory conditions, such as IBS, ulcerative colitis, and HIV-related enteropathy.^{1,3} In an animal model of chemotherapy (irinotecan)-induced gastrointestinal mucositis, 250 mg/kg or 500 mg/kg SBI twice daily were given for 4 days prior to irinotecan and for 6 days after. This led to a decrease in overall incidence, severity, and duration of diarrhea and clinical symptoms of mucositis.⁵ The animals who were given SBI also had fewer pronounced changes to neutrophil and lymphocyte levels after irinotecan with less damage to the colon and jejunum tissue.⁵ There was also less reduction of body weight compared to the control group.⁵

Benefits*

- Supports gut health
- Supports GI mucosal health
- Supports gut and systemic immune function
- Supports GI barrier integrity

Supplement Facts

Serving Size 3.5 grams (approx. one scoop)
Servings Per Container 30

Amount Per Serving	% Daily Value	
Calories	15	
Total Carbohydrate	less than 1 g	<1%**
Protein	2 g	4%
Serum-Derived Bovine Immunoglobulin Concentrate (ImmunoLin®)	2.5 g	*
Immunoglobulin G (IgG) (from ImmunoLin®)	1.1 g	*
N-Acetyl-D-Glucosamine	1 g	*

**Percent Daily Values are based on a 2,000 calorie diet.
*Daily Value not established.

Another animal model demonstrated that SBI intake attenuated clinical signs of LF82/dextran sodium sulfate-induced colitis, including histological lesion scores and cytokine levels.⁶ In a mouse study with MDR la-/- mice (mice that spontaneously develop colitis), SBI supplementation led to a significant reduction in neutrophil recruitment and activation, and associated inflammation compared to the control diet, which had additional milk added.⁷ It also promoted an increase in regulatory Th cells, which helped increase transforming growth factor-beta secretion to support a healthy inflammatory response.⁷

One study compared taking 5 g or 10 g of SBI per day or a placebo for 6 weeks in 30 patients diagnosed with IBS-diarrhea predominant (IBS-D).⁸ Those in the 10 g group experienced a statistically significant within-group improvement, including a reduction in abdominal pain, loose stools, bloating, flatulence, urgency, and any symptoms compared to baseline.⁸ The group taking 5 g per day had statistically significant within-group improvement including a reduction in days with flatulence, incomplete evacuation, and any symptom.⁸ Another study on 15 patients with IBS-D evaluated the effects of participants taking 5 g of SBI twice daily for 8 weeks.⁹ The results demonstrated a reduction in number of stools per day, ease of passage, and evacuation.⁹ There was also an improvement in the diversity and makeup of the gut microbiota.⁹ Another study surveyed patients with IBS or IBD who were prescribed SBI. The researchers found that the percentage of those with IBS who had normal stool frequency increased from 35% to 91% after using SBI with a similar improvement in patients with IBD.¹⁰ The mean daily stool number decreased from 6.5 to 2.6 after SBI use.¹⁰

In a study on IBD patients, researchers compared controlling symptoms with 5 g daily of SBI or nutritional support.¹¹ The results indicated clinical improvements in symptoms scores with SBI were 2.8 times more likely to occur. There were 49% of the patients who reported a response to SBI therapy at week 1 and 76% who reported a response at week 12.¹¹ In a multi-center, double-blind, placebo-controlled trial, researchers tested taking either 2.5 g or 5 g of SBI twice daily for 4 weeks versus a placebo in patients with HIV who had chronic idiopathic diarrhea.¹² There were significantly improved health status scores in the SBI cohorts and a reduction in the severity of diarrhea and other GI symptoms, although it was not statistically significant compared to the placebo, which was dextrose.¹²

N-Acetyl-D-Glucosamine (NAG) helps support immune function and mucosal health and reduces intestinal permeability.* NAG supports immune function and promotes a healthy inflammatory response by potentially reducing the excess activation of T-cells, natural killer cells, and dendritic cells.*¹³ It enhances N-glycan branching, which inhibits T-cell activity, including Th1 and Th17 responses.¹⁴

In one mouse study, oral NAG inhibited myelin oligodendrocyte glycoprotein-induced experimental autoimmune encephalomyelitis and the secretion of inflammatory cytokines, including TNF-a, interferon-gamma, interleukin (IL)-17, and IL-22.¹⁴ The NAG was consumed by taking supplements in the drinking water at 0.25 mg/mL, with the average consumption around 4.5 mL to 5 mL of water.¹⁴ Studies have also demonstrated the potential for NAG to support the release of acid mucopolysaccharides by fibroblasts and help restore the protective structures in the GI tract.¹⁵ It may also help to restore the integrity and function of the mucous membrane.¹⁵ This may help support GI conditions such as IBD.^{15,16}

In one study, 34 participants with IBD took 2 g of NAG three times per day for 4 weeks. The study results indicated an improvement in self-reported IBD symptoms, including abdominal pain, diarrhea, the passage of mucus, nausea, and rectal bleeding.¹⁷

Recommended Use: Mix 3.5 grams (approximately one scoop) in water or other liquid per day or as directed by your health-care practitioner.

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---iggi-shield-tech-sheet-references>

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage.

ImmunoLin® ImmunoLin® is a registered trademark of Entera Health, LLC.

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

To contact Designs for Health, please call us at (860) 623-6314, or visit us on the web at www.designsforhealth.com.