

## Clinical Applications

- Provides Immunoglobulins and Immunoregulating Factors That Promote Intestinal and Systemic Health\*
- Supports Passive Immunity in the Intestine\*
- Promotes Balanced Cytokine Production\*
- Supports Muscle Performance and Recovery\*

*"firmed GRAS supplement that provides IgY immunoglobulins and immunoregulating factors in egg. Research suggests that this easy-to-mix, dairy-free source of immunoglobulins support immune function in the intestine and a healthy intestinal environment. The supplement also suggests a role for the formula's immunomodulation and in sports recovery applications.\*"*

All Karen Brainard/ Bradenton East Integrative Medicine Formulas Meet or Exceed cGMP Quality Standards

## Discussion

Decades ago, immunology researchers began investigating the possible health benefits to humans that could be achieved by the consumption of products from hyperimmunized lactating cows and laying hens.<sup>[1]</sup> Agricultural scientists soon discovered that they could simultaneously immunize a single laying hen against multiple human germs. The resulting avian immunoglobulins, known as IgY, are transferred to the egg yolk, paralleling the way human immunoglobulins (IgG) are passed to the placenta. From this discovery, a new functional food was born: the "hyperimmune egg." Immuno GI-DF is the result of special hyperimmune egg harvesting and processing techniques that result in a polyvalent, immunoglobulin-rich, dried hyperimmune egg food product that can be consumed as a dietary supplement.

### IgY Immunoglobulins and Passive Immunity

Hyperimmune egg provides a concentrated source of environmentally specific IgY antibodies and immune-supporting cofactors that can confer passive immunity to the human being who consumes it.<sup>[1-6]</sup> There are over 100 patents associated with the production of hyperimmune egg and its use in animals and humans, and it is a self-affirmed GRAS (generally recognized as safe) product—a designation that affirms safe consumption. Furthermore, hyperimmune egg and IgY have been studied extensively.\*

**Oral Health** In a study of healthy volunteers, the use of an oral rinse containing an aqueous IgY solution increased the presence of active antibodies in saliva.<sup>[7]</sup> Moreover, in vitro, animal, and human research support the benefits of custom IgY solutions, IgY-supplemented diets, and IgY-containing pastes that are designed for use in the dental plaque environment and to promote gingival health.<sup>\*[8,9]</sup>

**Intestinal Health** IgY stability through the gastrointestinal tract and its safety profile are well-documented.<sup>[5]</sup> In vitro, animal, and human studies provide evidence that supplemental IgY from hyperimmune egg imparts passive immunity in the intestinal tract.<sup>[1,2,4,10-13]</sup> Providing the body with an increased supply of immunoglobulins also helps maintain a healthy balance of bacteria in the intestine. Supporting passive immunity and promoting microbiome balance lead to better overall health due to the link between gut health and systemic health. Furthermore, researchers postulate that by supporting passive immunity in the gut, immune overactivation might be reduced.<sup>\*[1]</sup>

### Immunoregulatory Factors

Hyperimmune egg not only provides IgY immunoglobulins, but it also contains bioactive immunoregulatory factors. These immunoregulatory factors act directly on gastrointestinal surfaces where they may influence effector cells and also circulate systemically where they act as intercellular communicators. As intercellular communicators, they are responsible for the regulation of a variety of immune, hormonal, and metabolic pathways that have widespread systemic effects.<sup>[1]</sup> Preliminary studies suggest that these immunoregulatory factors in Immuno GI-DF benefit cytokine modulation, joint health, blood lipid metabolism, exercise performance, and overall wellness.<sup>\*[1,5]</sup>

**Cytokine Modulation** Hyperimmune egg contains heightened levels of cytokine inhibitory factor (CIF) and cytokine activating factor (CAF).<sup>[14,15]</sup> These bioactive molecules help balance the production of cytokines such as TNF-alpha and are believed to help the immune system recognize when to turn on and when to turn off.<sup>\*[14,15]</sup>

**Joint Health** A small, 60-day, open-label pilot study (n=13) examined the effects of a multivitamin/mineral drink mix containing hyperimmune egg powder (4.5 g) on joint health. A statistically significant ( $P<0.05$ ) reduction in mean global assessment scores at 30 and 60 days was recorded. In a subgroup of patients, this result continued for 30 days after discontinuation of the drink.<sup>\*[16]</sup>

**Cardiovascular Health** In a 26-week, double-blind, placebo-controlled pilot study of military personnel (n=46), consumption of a supplement drink with hyperimmune egg (4.5 g) positively affected serum lipoprotein levels in comparison to controls and placebo (supplement drink without hyperimmune egg).<sup>[17]</sup> The investigators suggested that hyperimmune egg may modify serum lipoprotein regulation and thereby support cardiovascular health.\*

**Muscle Performance and Recovery** Clinical studies completed at the Human Performance Laboratory at the College of Charleston in South Carolina explored the sports-related benefits of hyperimmune egg. Compared to an egg-protein placebo group, oral supplementation of hyperimmune egg (4.5 g to 13.5 g) for 10 days resulted in a significantly lower submaximal heart rate and higher peak power.<sup>[18]</sup> In a double-blind, balanced, matched-pairs study, oral supplementation of hyperimmune egg (4.5 g to 13.5 g) improved strength performance and enhanced muscle recovery. The supplemented group also experienced significantly less muscle soreness.<sup>[19]</sup> Other studies presented in 2008 at the Southeast American College

*Continued on next page*

**\*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.**

# Supplement Facts

Serving Size: 1 Scoop (about 4.5 g)

Servings Per Container: About 30

	Amount Per Serving	%Daily Value
Calories	25	
Calories from Fat	15	
Total Fat	2 g	3%†
Saturated Fat	0.5 g	3%†
Cholesterol	75 mg	25%†
Protein	2 g	

†Percent Daily Values are based on a 2,000 calorie diet.

**Ingredients:** IgY Max™ Hyperimmunized egg powder.

**Contains:** Egg

## IgY Max™

IgY Max is a trademark of IgY Nutrition, LLC and is used under license.

## References

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## Does Not Contain

Wheat, gluten, yeast, corn, soy, dairy products, fish, shellfish, peanuts, tree nuts, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

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of Sports Medicine Conference and the National Strength and Conditioning Association Conference suggested that hyperimmune egg significantly increased levels of growth factor, insulin-like growth factor-1 (IGF-1), and related molecules. Furthermore, there was also a significant increase in the overall bioavailability of IGF-1.\*<sup>[20-22]</sup>

**Quality of Life** HIV/AIDS patients (n=31) with varying levels of sickness were administered hyperimmune egg (4.5 g) for four to eight weeks. The supplementation proved to have significant benefits on quality of life as observed by improvements in multiple parameters of physical and mental well-being, such as abdominal distress, energy levels, weight gain, and sleep.\*<sup>[23]</sup>

## Directions

Blend or shake one scoop in cold liquid, or sprinkle it on cold food such as salad, or use as directed by your healthcare practitioner. Do not heat, cook, or add to hot food or liquid.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner, and individuals with egg allergies should not consume this product. Do not use if tamper seal is damaged.