ImmunoVET™
Serum Immunoglobulin Concentrate

- Supports a healthy immune response
- Improves gut barrier function
- Maintains normal inflammatory cytokine production
- In three convenient sizes for cats, dogs, and horses
What is ImmunoVET?

ImmunoVET (ImmunoLin®*), an immunoglobulin concentrate of bioactive proteins, is derived from purified bovine serum. ImmunoVET contains at least 45-percent immunoglobulin G (IgG), plus lesser amounts of other immunoglobulins and bioactive proteins. The four primary bioactive proteins in ImmunoVET include:

- **Immunoglobulins** — primarily IgG; an important part of humoral immunity
- **Transferrin** — binds free iron, thereby preventing it from nourishing bacteria
- **Mitogenic growth factors** — essential for nutrient utilization and helping to maintain a healthy gut barrier
- **Immune regulatory cytokines** — known to stimulate secretion of secretory IgA, the body’s first line of defense; help maintain a healthy inflammatory response

The Science Behind ImmunoVET

The gut is the first line of defense against invading organisms. Therefore, maintaining a healthy GI tract is essential for general immune support. ImmunoVET works with the animal’s own immune system to help maintain gut barrier function. A 2002 study found bovine serum concentrate resulted in improved intestinal permeability, gut morphology (as measured by increased villous surface area and deepening crypts), and stool consistency.¹

Several animal studies have helped to elucidate the mechanisms of immunoglobulin concentrates in maintenance of a healthy immune response. In a 2004 study, immunoglobulin concentrate given to bacteria-challenged rats helped modulate the degree of activation of gut-associated lymphoid tissue (GALT). The intestinal secretory response was also decreased, leading to decreased water content of the stool.² A similar study in 2008 corroborated these results.³

Dietary plasma protein concentrates, such as those found in ImmunoVET, enhance the efficiency of protein utilization, improving lean tissue growth.⁴ ⁵ A study in weanling pigs found the IgG fraction of bovine plasma was the most important for improving protein metabolism.⁶ This may have implications in failure to thrive and wound healing.

Evidence from animal studies suggests ImmunoVET may help maintain a normal inflammatory response. A study of immune-challenged rats found immunoglobulin concentrate helps maintain a healthy cytokine ratio in the gut mucosa.⁷

Metabolism of ImmunoVET

Immunoglobulins are large proteins, which, unlike many proteins, are not completely broken down by hydrochloric acid in the stomach. IgG is not easily hydrolyzed by digestive enzymes and is stable in mildly acidic conditions. In vitro and in vivo, approximately 20-25 percent of immunoglobulins survive degradation, thus maintaining their biological activity throughout the GI tract.
Purity of ImmunoVET

The Raw Material
The naturally occurring proteins in purified bovine immunoglobulin are concentrated using stringent quality control procedures in a facility that is compliant with FDA Good Manufacturing Practices for food products. The processes take place in a closed system, preventing contamination. Only beef cattle from herds in the United States are used in the production of ImmunoLin. Bovine serum concentrates have been used therapeutically in recovering malnourished children with no evidence of adverse effects.

The Finished Product
The ImmunoVET products were formulated by expert veterinarians and are manufactured by Thorne Research with the same attention to purity and quality as all other Thorne veterinary and human products.

References
ImmunoVET™
is available in three sizes for dosing convenience

now available from Thorne Vet
call customer service at (800)228-1966 and ask for details on all 3 of our ImmunoVET products

For cats and small dogs

**ImmunoVET-Fc**

**Product Facts**

<table>
<thead>
<tr>
<th>Active Ingredients per Capsule:</th>
<th>300 mg</th>
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<tr>
<td>Immunoglobulin Protein Isolate*</td>
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<td>Inactive Ingredients:</td>
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<td>Microcrystalline Cellulose.</td>
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Directions For Use:
- Cats: 1 capsule twice daily
- Dogs: 1 capsule per 10 lbs body weight twice daily

60 Capsules
Code: V927

For larger dogs

**ImmunoVET-C**

**Product Facts**

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<th>Active Ingredients per Scoop:</th>
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<td>Inactive Ingredients:</td>
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Directions For Use:
- Dogs: 1 scoop per 25 lbs body weight twice daily

3.9 OZ. (110 G)
Code: V928

For horses

**ImmunoVET-EQ**

**Product Facts**

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<td>Immunoglobulin Protein Isolate*</td>
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<td>Inactive Ingredients:</td>
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<tr>
<td>None.</td>
<td></td>
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Directions For Use:
- Horses: 2 scoops twice daily

21.2 OZ (600 G)
Code: V929

*These products use Proliant Health & Biologicals immunoglobulin protein isolate (ImmunoLin®). ImmunoLin is a registered trademark of Proliant Health & Biologicals.