

# Product Rationale: **PROBIOTIC**



Consider the following review of clinical research results on several important ingredients including GI tract compatible and functional probiotics known for their ability to support digestion for a healthy intestinal balance.

Beneficial bacteria often become imbalanced by poor diet choices and environmental lifestyle stressors. Issues can arise when opportunistic microorganisms feed on undigested food molecules, creating gas. Optimal flora supports relief from occasional gastrointestinal (GI) discomfort, reduces problems associated with lactose intolerance, and encourages healthy and timely elimination by acting as a natural stool softener.

## FORMULA RATIONALE

Transformation's Professional Protocol™ Probiotic formulation is a carefully mixed selection of microorganisms that are friendly to the human GI tract. The organisms in this product will help stabilize and maintain a healthy intestinal probiotic ecosystem.<sup>1</sup> Probiotics also support production of enzymes such as protease, lipase, and lactase, further encouraging more complete digestion.

This comprehensive probiotic formula includes six different probiotic sources totaling more than 5 billion colony forming units (cfu) per capsule. Chosen for their safety and efficacy, the GI stable and heat stable microorganisms mirror the ratios found in a healthy GI tract. These organisms enhance the ecological balance of friendly bacteria, benefiting digestion, elimination, and immune function by populating the gut with the "friendly" naturally occurring bacteria vital to our overall health.

The value of the "friendly bacteria" normally found in the human digestive tract such as the *L. plantarum*, *L. acidophilus*, *L. casei*, *L. salivarius*, *B. coagulans*, and *B. longum* in Probiotic is well established. For instance, *Lactobacillus plantarum* is routinely used to improve the microbial safety of foods. This usage comes from their secretion of "bacteriocins" (proteins that are lethal to certain other bacteria)<sup>2</sup>. *L. plantarum* has also been found to inhibit the translocation of bacteria from the

gut to other organs (i.e., liver, lymph nodes) in animal models<sup>3</sup>.

Oral supplementation with *Lactobacillus acidophilus* can enhance the body's anti-infective mechanisms of defense<sup>4</sup>. Research has suggested how stimulation of the production of interleukin-1 alpha and tumor necrosis factor-alpha is one mechanism that shows the beneficial effects of swallowing *L. acidophilus*. These substances have potent cytotoxic and cytostatic effects on tumor cells<sup>5</sup>.

The mechanisms of immune support provided by *Bifidobacterium longum* have been widely studied in animal models. It has been found that *B. longum* stimulates the immune system by enhancing the activity of natural killer cells in the spleen of rats<sup>6</sup> and by stimulating intestinal IgA production<sup>7</sup>.

The immunostimulatory effect of *Lactobacillus casei* has been demonstrated in human subjects. These beneficial bacteria promote the immunological barrier of the gut by the intestinal secretion of IgA.

*Bacillus coagulans* (also known as *Lactobacillus sporogenes*) is a very resilient organism. It can sustain various conditions of the GI tract and can also help to control pathogenic organisms. This bacteria is readily activated by gastric acid and then migrates down the GI tract, producing lactic acid and various bacteriocins.

*Lactobacillus salivarius* is a very resilient and highly prolific bacteria. Its actions reduce the production of toxic amines. These organisms produce highly active proteolytic enzymes that enhance the hydrolysis of proteinaceous compounds in the colon.

Probiotic also includes **lactoferrin**, which is currently the object of considerable study. Lactoferrin has been shown to be an effective antibacterial agent. It is even

found in tears, where it serves as one component of the outer eye’s defense<sup>8</sup>. Supplementation with lactoferrin has been found to inhibit bacterial translocation from the digestive tract to other organs and systems. This is probably due to its suppression of bacterial overgrowth<sup>9</sup>.

Jerusalem Artichoke is rich in **inulin**, a polymer of fructose (also called fructooligosaccharides (FOS)). It has been shown how FOS can serve as a source of effective nutrients for intestinal probiotic bacteria. This activity is sometimes called “prebiotic” because normal human digestive enzymes are unable to digest FOS, and so it passes in its whole state into the colon where it becomes available as a nutrient to “friendly” bacteria<sup>10</sup>.

**OTHER INGREDIENTS**

This product is encapsulated in a vegetarian capsule. Probiotic is gluten and soy free. No fillers are used in this product.

**COMPONENT BENEFITS**

Transformation’s Professional Protocol™ Probiotic is a blend of six bacteria common to the human GI tract. This product has been formulated to mirror the proper ratios of these bacteria as found in the healthy GI tract and therefore maintain optimal flora to reduce GI discomfort.

Each one-capsule serving of Probiotic is formulated to include the following.

TZyme® Probiotic Blend	225 mg
<i>Lactobacillus acidophilus</i>	1,000,000,000 cfu
<i>Lactobacillus plantarum</i>	3,000,000,000 cfu
<i>Bacillus coagulans</i>	210,000,000 cfu
<i>Bifidobacterium longum</i>	200,000,000 cfu
<i>Lactobacillus salivarius</i>	300,000,000 cfu
<i>Lactobacillus casei</i>	225,000,000 cfu
Inulin (from Jerusalem artichoke root extract)	18 mg
Lactoferrin (milk)	10 mg

Other Ingredients:

- Hypromellose
- Pectin
- Water

**SUMMARY**

Transformation’s Professional Protocol™ Probiotic is

a therapeutic and comprehensive probiotic formula designed to help promote GI system health, assist with regularity, and support a healthy immune system.

**CLINICAL APPLICATIONS**

- Candidiasis
- Constipation
- Diarrhea
- Gas
- Intestinal bloating
- Inflammatory bowel diseases
- Lactose intolerance
- Immune conditions
- Weakened immunity
- Frequent antibiotic use
- Inhibited translocation of bacteria
- Dysbiosis – absence or imbalance of good bacteria
- Viral infection
- Bacterial infection

**RECOMMENDED USAGE**

Take 1 capsule of Probiotic upon rising or at bedtime with at least 8 oz. of water. If you have difficulty swallowing capsules, then remove contents from capsule, mix with a small amount of tepid water, and ingest immediately.

Therapeutic dosages:

- 1-2 capsules at bedtime or 1 in the morning and 1 at bedtime.
- More may be taken to relieve constipation: 2 capsules 2 x day morning and bedtime.
- May be taken with antibiotics to help maintain healthy balance (increase dosage as needed)
- May be taken with meals to relieve gas and bloating
- Topical application: open capsule and mix with small amount of water to make a paste, then apply to fungal infection, fever blister, mouth sore, etc.
- 1 capsule may be mixed in 4 ounces of water and gargled to relieve sore throat.

**SAFETY / QUALITY ASSURANCE**

All Transformation™ formulas are carefully prepared to assure maximum quality and nutritional effectiveness.

**MICROBIOLOGICAL EVALUATION**

This product was tested and found to be NSF/ANSI

compliant and absent of any traces of *E.coli*, *salmonella*, and *S.aureus*.

## PRODUCT SPECIFICATIONS

Probiotic is available in bottles of 30, 60, and 120 capsules.

Does not contain any gluten, soy, artificial colors, flavors, or preservatives.

Refrigerate for optimum activity. Keep out of reach of children.

## REFERENCES

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