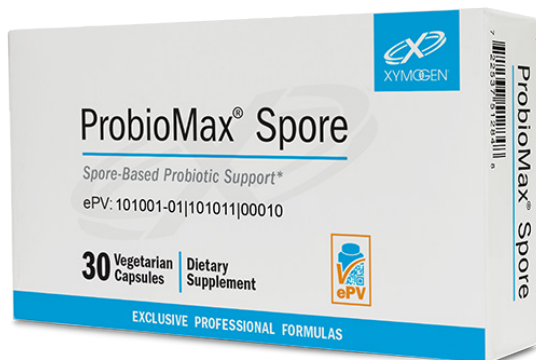


ProbioMax[®] Spore

Spore-Based Probiotic Support*



Available in 30 capsules

Discussion

The diversity of microflora is characteristic of a healthy gut microbiome. It contributes to overall health and vitality by supporting digestive health, nutrient assimilation, gut integrity, motility, and efficient toxin and waste removal. Many internal and external influences, including stress, a poor diet, food sensitivities, medication, environmental factors, and certain disease conditions, can impact the balance within this fine-tuned microbial community. Disruption of bacterial balance can lead to potential colonization by pathogenic organisms and result in adverse effects ranging from gastrointestinal (GI) symptoms to impaired immune response.¹⁻³ Probiotics are suggested to play a protective role in balancing gut microecology; however, these live bacteria must withstand harsh conditions to reach and ultimately proliferate in the gut to provide a health benefit to the host.^{4,5}

Species of lactic acid-producing bacteria from the *Lactobacillus* and *Bifidobacterium* genus and some yeasts from the *Saccharomyces* genus are commonly found in food products and dietary supplements.^{5,6} However, these probiotic species are known to be sensitive to light, heat, moisture, acidic pH, and other environmental factors, making their manufacturing, storage, shipping, and delivery to the gut challenging. Spore-producing species from the *Bacillus* genus naturally have a unique microencapsulation system or endospore “coating,” allowing them to remain in a dormant, protected state throughout the harsh journey to the gut, where conditions are optimal for them to flourish.⁴⁻⁶

Beneficial effects can differ among probiotic species, and specific strains may confer certain health effects. Therefore, the clinical evidence for the *Bacillus* genus must reflect specific strains within the species.

***Bacillus coagulans* (LACRIS[™]-S SANK 70258)**

Bacillus coagulans is a unique lactic acid-producing probiotic species with an endospore outer layer that enables viability throughout shelf life and allows this species to survive intact until reaching the gut.^{6,7}

B. coagulans (SANK 70258) is a strain with evidenced benefits for digestive health. In a randomized, double-blind, placebo-controlled study, subjects (N = 60) with low stool frequency were given 1 billion spores for a 2-week investigational period. SANK 70258 was shown to have significantly improved bowel regularity.^{*7}

The effect of SANK 70258 on intestinal flora, fecal characteristics, and the relationship of fecal outcome to dermal characteristics was evaluated using the results of 2 studies in rats and humans. Human subjects (N = 20) were

Clinical Applications

- » Supports Digestive Health*
- » Supports Bowel Regularity*
- » Supports a Healthy Gut Microbiome*

ProbioMax[®] Spore features spore-forming probiotic strains, carefully selected for both stability and the ability to support digestive health and bowel regularity. Sporulated strains naturally contain a unique protective outer layer to ensure viability throughout manufacturing, storage, and transit through the low pH of the stomach so they can actively support a healthy gut microbiome.*

instructed to stop eating foods containing viable microbes and stop taking antibacterial medications for 2 weeks before and during the 2-week experiment period in which they were given 1 billion spores per day. Results in both rats and humans demonstrated the high resistance of SANK 70258 to bile, a favorable improvement in intestinal bacterial flora, less skin aggravation associated with intestinal decomposition production, an increase in average stool frequency, and an improvement in fecal characteristics.^{*8}

***Bacillus subtilis* (DE 111)**

B. subtilis is a spore-forming probiotic species with a demonstrated safety profile and evidence supporting bowel regularity. In a study of healthy adult participants (N = 41), 5 billion spores of the DE 111 strain of *B. subtilis* were well-tolerated when supplemented for an average of 20 days.⁹ In another study, the effect of DE 111 on the frequency and type of bowel movements was evaluated over the course of 105 days in subjects (N = 50) with occasional GI irregularity. Each participant was instructed to consume either 1 billion spores of DE 111 or placebo with a meal for 90 days and score their bowel movements using the Bristol Stool Chart. Additionally, digestive health questionnaires were completed on days 1, 15, 45, 75, and 105. A significant improvement in GI discomfort, including constipation and diarrhea, and an increase in the frequency of normal stools was noted over the course of the study in subjects taking DE 111.^{*10}

***Bacillus clausii* (MuniSpore[®] CS 108)**

Strains from the *B. clausii* species have been studied for positively influencing microbial balance and for their beneficial effect on symptoms of GI distress.^{11,12} A study characterizing the attributes of the CS 108 strain of the *B. clausii* species suggested the potential for this strain as a supplemental probiotic supporting a healthy gut microbiome. In vitro analysis of CS 108 demonstrated resistance to harsh GI conditions and pasteurization, good adhesion capability, a capacity to suppress pathogen growth and increase antioxidant activity, the enzymatic ability to assimilate various carbohydrates, and an immunomodulatory effect in human cell lines.¹³ Although in vitro analysis suggests CS 108 as a resilient, stable, and potentially effective probiotic strain, additional research is needed to determine the optimal dose for and benefits of this and other specific *B. clausii* strains.

ProbioMax[®] Spore contains strains of sporulated bacteria from the *Bacillus* species. It is formulated to promote a healthy gut microbiome and to support digestive health and bowel regularity.*

*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.

ProbioMax® Spore Supplement Facts

Serving Size: 1 Capsule

	Amount Per Serving	%Daily Value
<i>Bacillus subtilis</i> DE111 ^{S1}	18.2 mg (2 Billion CFU [†])	**
<i>Bacillus clausii</i> CS108 ^{S2}	9.1 mg (1 Billion CFU [†])	**
DuoPro ^{S3} Blend <i>Bacillus subtilis</i> Bss-19 ^{S3} <i>Bacillus coagulans</i> SANK 70258 ^{S3}	2.9 mg (1 Billion CFU [†])	**
** Daily Value not established.		

Other Ingredients: Microcrystalline cellulose, capsule (hypromellose and water), ascorbyl palmitate, hydroxypropyl cellulose, and silica.

DIRECTIONS: Take one capsule daily, or use as directed by your healthcare professional.

Consult your healthcare professional before use. Individuals taking medication should discuss potential interactions with their healthcare professional.

STORAGE: Keep tightly closed in a cool, dry place out of reach of children.

FORMULATED TO EXCLUDE: Wheat, gluten, soy, animal and dairy products, fish, shellfish, peanuts, tree nuts, egg, sesame, ingredients derived from genetically modified organisms (GMOs), artificial colors, and artificial sweeteners.

† Colony-Forming Unit

S1, DE111® and S2 MuniSpore® are registered trademarks of Deerland Probiotics & Enzymes, Inc.

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All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

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