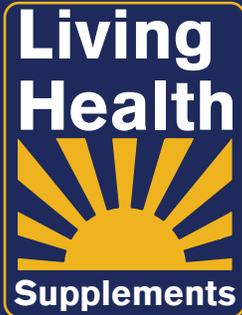


# Probio 100



## Clinical Applications

- Supports a Healthy Bacterial Population in the Mouth\*
- Supports Good Oral Hygiene and Healthy Teeth and Gums\*
- Supports the Natural Defense of the Teeth Against Plaque Accumulation\*

**Probio 100** is a chewable probiotic designed to activate in the oral cavity for support of healthy teeth and gums. As you chew the peppermint-flavored tablet, it releases the safe and powerful DSM 14685 strain of *Streptococcus salivarius*—a beneficial bacterium that normally occurs in a healthy oral cavity. *S salivarius* DSM 14685 then attaches to cells in the oral cavity and colonizes, positively affecting the bacterial population therein and naturally defending the teeth and gums. Probio 100 can be used as a complementary addition to your daily oral and dental health regimen.\*

All Living Health Integrative Medicine Formulas Meet or Exceed cGMP Quality Standards

## Discussion

The oral cavity is home to a plethora of bacteria. Some of these microorganisms are the native and generally beneficial bacteria that promote the health of teeth and gums. *Streptococcus salivarius* (*S salivarius*) is among the most numerous of these “good” bacteria found in the mouths of healthy individuals.<sup>[1,2]</sup> By promoting a healthy balance of bacteria in the mouth, the natural defenses of teeth and gums are supported. Moreover, promoting the growth of specific strains of these safe, natural defenders may be an important aspect of dental health, as some *S salivarius* are more beneficial than others.\*

**Strain DSM 14685** *S salivarius* DSM 14685 was originally isolated from a healthy adult during a specific search for a strain of *S salivarius* capable of offering targeted protection to teeth and gums.<sup>[1,3,4]</sup> DSM 14685 is a highly beneficial strain that may be lacking in some individuals.\* Data indicate that this particular strain has attributes that make it especially applicable to oral and dental health:

**Adherence and Colonization** In order for a probiotic to exert its benefits, it must be able to adhere to and persist in target tissues. Preliminary evidence suggests that DSM 14685 is able to colonize tissues of the mouth. Colonization by DSM 14685 “crowds out” less desirable bacteria that are competing for space and nutrients, and thereby helps promote an oral microbial balance that is associated with dental health.\*<sup>[1,4]</sup>

**Bioactive Proteins** One of the distinctive attributes of DSM 14685 that makes it an ideal strain for dental health is its production of specific bioactive proteins, namely salivaricin A, salivaricin 9, and salivaricin M.<sup>[1,2,5,6]</sup> These proteins provide targeted support for a balanced oral microbiota and contribute to the body’s natural defense of teeth and gums.\*

**Dextranase and Urease Production** Extracellular polysaccharides produced by certain oral bacteria contribute to plaque biofilm—the sticky structure that keeps bacteria in close contact with dental tissue. A highly unique characteristic of DSM 14685 is its ability to produce dextranase, an enzyme that acts on plaque biofilm.<sup>[7]</sup> In a randomized, double-blind, placebo-controlled trial performed in children (n=100, with 83 finishing), DSM 14685 supplementation at 3.6 billion CFU (colony-forming units) for three months resulted in a significant difference in mean plaque scores when compared to the placebo group during the same treatment period.<sup>[1]</sup> Additionally, for the subgroups with pretreatment plaque scores of 7 or greater (on a scale of 0-18†), 87.5% of the DSM 14685 group and 44% of the placebo group had plaque score reductions of 3 or more after treatment. It is also interesting to note that dextranase can destabilize plaque “scaffolding,” making it a less suitable material to which bacteria can cling. In addition to dextranase, DSM 14685 also produces urease, an enzyme that neutralizes acid and helps maintain a healthy pH in the mouth.<sup>[1,8,9]</sup> Some oral microorganisms—*S mutans*, for instance—produce lactic acid from dietary carbohydrate metabolism. Over time, exposure to lactic acid can degrade tooth enamel and dentine.\*

**Dental Health Link to Systemic Health** As scientific investigations continue to reveal, the connection between the oral microbiota and health may not be limited to teeth and gums.<sup>[10]</sup> Some researchers propose that oral/dental health may be intimately linked to systemic health.<sup>[1,11,12]</sup> In fact, maintaining good oral hygiene, supporting a healthy balance of oral microorganisms, and managing plaque accumulation—and therefore the reactionary release of cellular cytokines (e.g., IL-6, IL-8)—may prove to be important upstream factors that influence cardiovascular health, erectile function, glucose/insulin metabolism, and even joint health.\*<sup>[1,12-17]</sup>

**For Best Results** Probio 100 tablets should be chewed slowly and thoroughly, ideally after the patient’s oral hygiene routines (e.g., brushing, flossing, rinsing). Waiting until the tablet is completely dissolved before swallowing and avoiding liquids for 30 minutes after consumption will help optimize adherence. The tablets do not contain cariogenic sugars or other ingredients that could negatively affect dental health. Probio 100 is an advanced probiotic approach to managing oral hygiene and dental health that complements standard oral hygiene practices, such as brushing, flossing, and rinsing.\*

<sup>†</sup>The scoring reflects an adapted Simplified OHI-S Index. Researchers scored six teeth, with a maximum score of 3 per tooth, and added those scores together. Thus, the total scale was 0-18. This 0-18 scale was used as the basis for the statistics.

**\*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.**

## Probio 100

# Supplement Facts

Serving Size: 1 Tablet  
Servings Per Container: 60

	Amount Per Serving	%Daily Value
( <i>Streptococcus salivarius</i> DSM 14685)	10 mg† (1 Billion CFU‡)	**
** Daily Value not established.		

**Other Ingredients:** Xylitol, ascorbyl palmitate, natural peppermint flavor (no MSG), and silica.

†Formulated with 20 mg (2 Billion CFU) at time of manufacture

‡Colony-Forming Units

## Directions

After your bedtime oral hygiene routine, chew one tablet slowly and completely before swallowing, or as directed by your healthcare professional.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if foil is punctured.

## Storage

No refrigeration necessary. Store in a cool, dry place out of reach of children.

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## Does Not Contain

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

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DRS-271  
REV. 07/14/15