***Researched Nutritionals Ora Max****(vegetarian) –* Oral Health/Microbiome- 1 billion CFU Lactobacillus reuteri (LRE-15), Lactobacillus salivarius (LS-33), Bifidobacterium lactis (HN019), 186 mg Xylitol, Green tea leaf extract, Cinnamon bark powder, cinnamon bark 20:1 extract, Lysozyme

Success story: I get my teeth cleaned every 6 months. I started OraMax right before my cleaning last May. I took 1 twice a day after brushing/flossing. In November, when I went back for my second cleaning, the hygienist commented with surprise that I had no tartar buildup. She asked me what I was doing differently. Contributed by Stephanie Reece

Indications for use: Mouth/teeth/gums/gut/Brain

* Bad breath
* Cavities
* Dental biofim- first defensive line of stealth pathogens (whether viral, bacterial, fungal, parasitic)
* Dry mouth/eyes/sensitive teeth/loss of taste (related to parotid gland)
* Gum/periodontal disease (gum disease, tonsilitis, smoking all contribute to Dysbiosis)
* Listeria bacteria (associated w gum disease)
* Parotid gland/ Salivary
* Smoking
* Strep
* Supports healthy oral microbiome (2nd largest microbiome) and in turn gut microbiome
* Tartar/plaque
* Tonsilitis

Oral bacteria spreading through the body have been associated with a number of systemic diseases. The gut is no exception. Studies in animals and man have indicated that oral bacteria can translocate to the gut and change its microbiota and possibly immune defense.[[1]](#endnote-1) It is believed that pathogenic bacteria originating in the oral cavity as a result of poor hygiene or alteration of the oral microbiota, will promote a disturbance in the intestinal microbiota, which may lead to inflammation and systemic changes. From the 2000s, studies started emerging on the preventive and therapeutic effects of probiotics in the context of the oral cavity for the management of caries, periodontal diseases, halitosis and abnormal growths/infections occuring around the root of a tooth.[[2]](#endnote-2)

Oral microbiota can also make it to the brain via the cardiovascular system, where they are thought to be directly responsible for disruption of neurological functions and degradation of the brain through accumulation of toxic bioproducts.[[3]](#endnote-3) Studies show that bacteria in the mouth can travel to the brain and become a factor in the onset of Alzheimer's disease. Oral health issues may have up to a 26% higher risk of dementia.[[4]](#endnote-4)

Since it is recognized that changes in dental biofilm play a key role in the initiation and progression of periodontal diseases, the administration of probiotic strains has been proposed to be useful in the prevention and treatment of these diseases[[5]](#endnote-5). Lactobacillus and Bifidobacterium are the most frequently described probiotics among which Lactobacillus reuteri is one of the most studied strains [[6]](#endnote-6).

Oral L. reuteri treatment suppressed the growth of periodontal pathogens in the subgingival microbiota. Studies have also shown that Lactobacillus reuteri can sustainably increase the population of beneficial bacteria in the oral cavity, thus restoring the natural oral flora lost during infection. [[7]](#endnote-7)

As the main bacteria in our mouth, Lactobacillus salivarius is important for maintaining dental hygiene. It also plays a role in preventing intestinal diseases and supporting the immune system. Its most important feature is its ability to produce a type of natural antibiotic shown to protect against infection from invasive pathogens in food. Studies in mice show that L. salivarius [protects against Listeria monocytogenes](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1863472/), a bacteria known to cause gum disease. Another important finding is that L. salivarius can help improve bacterial populations in the mouth, reducing the development of gum plaque. It’s also shown to [increase resistance to the risk factors for dental caries](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4236677/). When taken orally, L. salivarius can help to improve bad breath and reduce the risk of periodontitis causing gums to bleed. Even smokers were shown to benefit from this.[[8]](#endnote-8)

Bifidobacterium lactis 109 has been published in more than 110 scientific publications. It’s been been shown to improve digestive symptoms and support gut regularity.

Sjögren’s syndrome affects the exocrine glands, especially the salivary and lacrimal glands (keeps eyes moist). Oral microbial composition was significantly different between the anti-SSA-positive and SSA-negative groups. The microbial diversity in SS subjects was lower than that in non-SS sicca subjects. Furthermore, SS subjects exhibited decreased microbial diversity and Firmicutes abundance. The abundance of Bacteroidetes was positively correlated with the salivary flow rate. Bioinformatics analysis revealed several potential microbial biomarkers for SS at the genus level, such as decreased *Lactobacillus* abundance or increased *Streptococcus* abundance. These results suggest that microbiota composition is correlated with the clinical features of SS, especially the ductal structures and salivary flow, and that the oral microbiome is a potential diagnostic biomarker for SS.[[9]](#endnote-9)

The aim of the present study was to test in vivo the effectiveness of an experimental green tea extract in reducing levels of mutans streptococci and lactobacilli in saliva by means of selective culture medium. Sixty-six healthy patients ranging in age from 12 to 18 years were recruited and randomly divided into two groups: Group A (n=33) and group B (n=33). Group A subjects were asked to rinse their mouths with 40 mL of an experimental green tea extract, for 1 minute, three times a day for a week, whereas Group B subjects were asked to rinse with 40 mL of a placebo mouth rinse. Saliva samples were obtained at baseline, 4 days, and 7 days. The experimental group showed a statistically significant reduction in colony counts of mutans streptococci and lactobacilli relative to the control group. These findings showed the efficacy of a green tea extract against cariogenic oral flora, opening a promising avenue of clinical applications in the preparation of specific and natural anticariogenic remedies.[[10]](#endnote-10)

Saliva also provides [antimicrobial activity](https://www.sciencedirect.com/topics/medicine-and-dentistry/antimicrobial-activity) through numerous [proteins and peptides](https://www.sciencedirect.com/topics/medicine-and-dentistry/peptides-and-proteins) including mucins, [lactoferrin](https://www.sciencedirect.com/topics/medicine-and-dentistry/lactoferrin), [lysozyme](https://www.sciencedirect.com/topics/medicine-and-dentistry/lysozyme), [lactoperoxidase](https://www.sciencedirect.com/topics/medicine-and-dentistry/lactoperoxidase), [statherin](https://www.sciencedirect.com/topics/medicine-and-dentistry/statherin), [histatins](https://www.sciencedirect.com/topics/medicine-and-dentistry/histatin) and antibodies (secretory immunoglobin A, sIgA).[[11]](#endnote-11) Lysozyme is a salivary protein that positively affects the oral microbiome. It is used in toothpastes and mouthwashes as an anti-bacterial agent. Salivary glycoproteins contain glycans that may act as decoys to prevent pathogens from adhering to epithelial cells, thereby influencing a healthy microbial homeostasis. This was shown in vitro on inhibition of adhesion of the fungus Candida albicans to epithelial cells.[[12]](#endnote-12)

Both cinnamon and probiotic blend have a strong antimicrobial property owing to their ability to cause significant reduction in salivary *S. mutans* and both the patches showed good patient acceptance.[[13]](#endnote-13)

Chewing gum containing xylitol may help prevent caries by reducing levels of mutans streptococci (MS) and lactobacilli in saliva and plaque.[[14]](#endnote-14)

1. https://www.tandfonline.com/doi/pdf/10.1080/20002297.2019.1586422?needAccess=true&role=button [↑](#endnote-ref-1)
2. Intl Journal of Molecular Science- Use of the Probiotic Bifidobacterium animalis subsp. lactis HN019 in Oral Diseases [↑](#endnote-ref-2)
3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7382139/  [↑](#endnote-ref-3)
4. https://www.smilegeneration.com/education/mouth-body-connection/brain-health/#:~:text=Studies%20show%20that%20bacteria%20in,Disease%20%26%20Other%20Health%20Issues.%22  [↑](#endnote-ref-4)
5. https://www.mdpi.com/2076-0817/11/2/112 [↑](#endnote-ref-5)
6. https://pubmed.ncbi.nlm.nih.gov/34153538/ [↑](#endnote-ref-6)
7. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6503789/ [↑](#endnote-ref-7)
8. https://balanceone.com/blogs/news/lactobacillus-salivarius [↑](#endnote-ref-8)
9. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9114876/ [↑](#endnote-ref-9)
10. <https://www.liebertpub.com/doi/abs/10.1089/jmf.2010.0196> [↑](#endnote-ref-10)
11. https://www.sciencedirect.com/science/article/pii/S030057121830335X [↑](#endnote-ref-11)
12. [Everest-Dass et al., 2012](https://www.frontiersin.org/articles/10.3389/fcimb.2014.00085/full#B16)). [↑](#endnote-ref-12)
13. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7887182/ [↑](#endnote-ref-13)
14. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6225370/ [↑](#endnote-ref-14)