Premium

Breath Biotics

Supports Healthy Oral Environments to Keep Breath Fresh and Prevent Infection

- High dose of the patented oral probiotic strain *Streptococcus salivarius K12*
- Fights bacteria that cause bad breath
- Promotes a healthy oral microbiome, which acts as a first line of defence against infections
- Naturally sweetened with a fresh minty taste

Gluten Free  Non-GMO  Vegetarian  Cold & Flu Immunity

AOR Code  Variant
AOR04380  60 LOZENGES
AOR24380  100 LOZENGES

Details
Halitosis, or bad breath, can be caused by a number of factors. It may indicate a local exposure to malodorous foods, an infection or a deeper more systemic concern. The odour itself relates to volatile compounds that have a high sulfur content and are produced by gram negative bacteria on the tongue, or between and around teeth. Halitosis can be transient (such as from sulfuric foods, tobacco products, or dry mouth) or it can persist. Persistent halitosis can indicate a systemic or local infection, post nasal drip, GERD, kidney disease, or even liver failure, though systemic diseases only account for 10% of these cases. Cleaning the tongue, by brushing or with mouthwashes, can remove some of the offensive compounds (food remnants, dead cells etc.) that the bacteria feed on, clear away bacteria themselves, or mask the odour for a period of time. But treatment of the underlying cause is ultimately best practice. One of the most effective treatments is to ensure that the oral microbiota is healthy. Breath Biotics with BLIS K12 contains a patented strain of the probiotic *Streptococcus salivarius K12*, to ensure a healthy oral microflora. By increasing the good bacteria present in the mouth you can reduce bacteria that cause bad breath, and strengthen your first line of defense against infections.
Discussion
Breath Biotics is Streptococcus salivarius K12, an oral probiotic which helps reduce halitosis (bad breath) and promotes oral health. Breath Biotics can also help reduce the incidence of sore throat caused by pathogenic Streptococcus pyogenes.

Product Variation

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Supplements Facts

<table>
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<th>Serving Size: 1 Lozenge</th>
<th>Amount</th>
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<tr>
<td>BLIS K12™* (Streptococcus salivarius K12)</td>
<td>1 billion CFU†</td>
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*BLIS K12™ is a registered trademark of Blis Technologies New Zealand.
†Colony-forming units.

Non-medical ingredients:
isomalt, sodium stearyl fumarate, maltodextrin, monk fruit extract, starch, gum Arabic, hyprolose, trehalose, lactitol, natural flavour (wintergreen, peppermint).

Guarantees

AOR™ guarantees that all ingredients have been declared on the label. Contains no wheat, gluten, sesame seeds, sulphites, mustard, eggs or shellfish.

Adult Dosage

For halitosis take 4 lozenges daily for a minimum of 3 days. For oral health take 1-2 lozenges daily for a minimum of 10 days. For the prevention of sore throat due to infection, take 5 lozenges daily for 90 days. Suck lozenge for 5 minutes, do not chew or swallow. Before taking the first lozenge of the day, rinse mouth with an antimicrobial mouthwash. Take at least 2-3 hours before or after antibiotics.

Cautions

Consult a health care practitioner prior to use if you have fever, vomiting, bloody diarrhea, or severe abdominal pain. Do not use if you have an immune compromised condition (e.g. AIDS, lymphoma, undergoing long-term corticosteroid treatment), are taking aminoglycoside antibiotics (e.g. kanamycin, streptomycin), or have a dairy allergy. If symptoms of ear, nose or throat infections (e.g. fever, sore throat) occur, or if symptoms of digestive upset (e.g. diarrhea) occur, worsen or persist beyond 3 days, discontinue use and consult a health care practitioner.

Source

BLIS K12™ is a patented probiotic strain (Streptococcus salivarius K12)

Main Application
Bad Breath

Oral Health

Disclaimer

The information and product descriptions appearing on this website are for information purposes only, and are not intended to provide or replace medical advice to individuals from a qualified health care professional. Consult with your physician if you have any health concerns, and before initiating any new diet, exercise, supplement, or other lifestyle changes.

Research

Background

Oral Health and Overall Health

The oral cavity is the first point of entry for many pathogens, there can be systemic implications of oral infections. Poor oral health has been implicated as a risk factor in a number of chronic illnesses from cognitive decline to cardiovascular concerns. The moist environment makes the tongue ideal for anaerobic bacteria to grow. Poor oral health can lead to the growth of bacteria such as Streptococcus pyogenes which are a primary cause of sore throat. More serious pathogens such as Streptococcus viridans have been linked to heart conditions such as endocarditis and valvular dysfunction. This highlights the importance of oral healthcare.

The Oral Microbiome

Much of the research over the last decade regarding the systemic benefits of maintaining a diverse bacterial microflora has lead to a greater awareness of the gut bacteria. However, beneficial bacteria exist outside of the gut, on the skin, nose and oropharynx. Bacteria in the mouth and throat initiate digestion and drug metabolism, act as barriers against infection, and communicate with the immune system. These bacteria are also integral to dental structure and health. A number of strains have been identified as oral probiotics and have been researched in various forms such as tablets, sprays, and mouthwashes for a number of oral health concerns arising from dysbiosis.

What is halitosis?

Halitosis, or bad breath, can be caused by a number of factors. It may indicate a local exposure to malodorous foods, an infection or a deeper, more systemic concern. The odour itself usually relates to volatile compounds that have a high sulfur content and are produced when gram negative bacteria on the tongue or enzymes in the saliva digest sulfur containing foods. Halitosis can be transient (such as from sulfuric foods, tobacco products, or dry mouth) or it can persist. Persistent halitosis can indicate a systemic or local infection, post nasal drip, GERD, kidney disease, or even liver failure, though systemic diseases only account for 10% of these cases. Cleaning the tongue, by brushing or with mouthwashes, can remove some of the offensive compounds (food remnants, dead cells etc.) that the bacteria feed on, clear away bacteria themselves, or mask the odour for a period of time.

Research

Halitosis and Strep. Salivarius K12
Oral treatment of halitosis with S. salivarius was shown to reduce the production of volatile sulphur compounds that cause bad breath.

**Blis K12 and S.pyogenes infection**

780 Children in New Zealand were monitored for 10 months to measure the incidence of group A streptococci infection. It was found that those positive for Streptococcus salivarius were significantly less likely to acquire infections. Another study in Brazil found that children who did not experience frequent sore throats had significantly higher production of bacteriocin-like inhibitory substance (BLIS) produced by S. Salivarius colonizing the mouth and pharynx.

**Blis K12 upper respiratory tract health**

Post antibiotic repopulation with S. salivarius showed reduction in recurrent episodes of otitis media in children.

**Market Trends**

Most probiotic products are targeted to improving gut health, while oral strains have only recently begun to gain more traction. Mouthwashes containing zinc or chlorine dioxide, and dental treatment can provide some support; however, they are not addressing oral dysbiosis, and may even be contributing to it by killing off oral bacteria without replacing it with beneficial strains.

**AOR Advantage**

Breath Biotics provides 4 billion CFU of the well-researched, patented strain of healthy bacteria *Streptococcus salivarius* K12, in a delicious, mint flavoured lozenge for improved oral health. Breath biotics with BLIS K12 is a perfect product for combating any form of bad breath, and can be used in place of chewing gum or mints to freshen breath while addressing the heart of the problem and promoting oral health.

**References**


Chilcott, C., et al., Elevated levels of interferon gamma in human saliva following ingestion of Streptococcus salivarius K12, in Joint New Zealand an Australian Microbiological Societies Annual Meeting. 2005: Dunedin.


streptococcal diseases entering the new millennium. Securacopy, Auckland.


Abstract

Abstract: Considerable human illness can be linked to the development of oral microbiota
disequilibria. The predominant oral cavity commensal, Streptococcus salivarius has emerged as an
important source of safe and efficacious probiotics, capable of fostering more balanced, health-
associated oral microbiota. Strain K12, the prototype S. salivarius probiotic, originally introduced to
counter Streptococcus pyogenes infections, now has an expanded repertoire of health-promoting
applications. K12 and several more recently proposed S. salivarius probiotics are now being applied
to control diverse bacterial consortia infections including otitis media, halitosis and dental caries.
Other potential applications include upregulation of immunological defenses against respiratory viral
infections and treatment of oral candidosis. An overview of the key steps required for probiotic
development is also presented.

Di Pierro F, Colombo M, Zanvit A, Risso P, Rottoli AS. Use of Streptococcus salivarius K12 in
the prevention of streptococcal and viral pharyngotonsillitis in children. Drug Healthc Patient

Abstract
BACKGROUND: Streptococcus salivarius K12 is an oral probiotic strain releasing two lantibiotics
(salivaricin A2 and salivaricin B) that antagonize the growth of S. pyogenes, the most important
bacterial cause of pharyngeal infections in humans also affected by episodes of acute otitis media. S.
salivarius K12 successfully colonizes the oral cavity, and is endowed with an excellent safety profile.
We tested its preventive role in reducing the incidence of both streptococcal and viral pharyngitis
and/or tonsillitis in children.

MATERIALS AND METHODS: We enrolled 61 children with a diagnosis of recurrent oral
streptococcal disorders. Thirty-one of them were enrolled to be treated daily for 90 days with a slow-
release tablet for oral use, containing no less than 1 billion colony-forming units/tablet of S. salivarius
K12 (Bactoblis®), and the remaining 30 served as the untreated control group. During treatment, they
were all examined for streptococcal infection. Twenty children (ten per group) were also assessed in
terms of viral infection. Secondary end points in both groups were the number of days under antibiotic
and antipyretic therapy and the number of days off school (children) and off work (parents).

RESULTS: The 30 children who completed the 90-day trial with Bactoblis® showed a significant
reduction in their episodes of streptococcal pharyngeal infection (>90%), as calculated by comparing
the infection rates of the previous year. No difference was observed in the control group. The treated
group showed a significant decrease in the incidence (80%) of oral viral infections. Again, there was
no difference in the control group. With regard to secondary end points, the number of days under
antibiotic treatment of the treated and control groups were 30 and 900 respectively, days under
antipyretic treatment 16 and 228, days of absence from school 16 and 228, and days of absence from
work 16 and 228. The product was well tolerated by the subjects, with no side effects, and only one
individual reported bad product palatability and dropped out.

CONCLUSION: Prophylactic administration of S. salivarius K12 to children with a history of recurrent
oral streptococcal disease resulted in a considerable reduction of episodes of both streptococcal and
viral infections and reduced the number of days under antibiotic and/or antipyretic therapy and days
of absence from school or work.

Abstract: OBJECTIVE:
Periodontitis is known to have multifactorial etiology, involving interplay between environmental, host and microbial factors. The current treatment approaches are aimed at reducing the pathogenic microorganisms. Administration of beneficial bacteria (probiotics) has emerged as a promising concept in the prevention and treatment of periodontitis. Thus, the aim of the present study is to evaluate the efficacy of the local use of probiotics as an adjunct to scaling and root planing (SRP) in the treatment of patients with chronic periodontitis and halitosis.

METHODS:
This is a randomized, placebo-controlled, double-blinded trial involving 32 systemically healthy chronic periodontitis patients. After SRP, the subjects were randomly assigned into the test and control groups. Test group (SRP probiotics) received subgingival delivery of probiotics and probiotic mouthwash, and control group (SRP placebo) received subgingival delivery of placebo and placebo mouthwash for 15 days. Plaque index (PI), modified gingival index (MGI), and bleeding index (BI) were assessed at baseline, 1 and 3 months thereafter, whereas probing depth (PD) and clinical attachment level were assessed at baseline and after 3 months. Microbial assessment using N-benzoyl-DL-arginine-naphthylamide (BANA) and halitosis assessment using organoleptic scores (ORG) was done at baseline, 1 and 3 months.

FINDINGS:
All the clinical and microbiological parameters were significantly reduced in both groups at the end of the study. Inter-group comparison of PD reduction (PDR) and clinical attachment gain (CAG) revealed no statistical significance except for PDR in moderate pockets for the test group. Test group has shown statistically significant improvement in PI, MGI, and BI at 3 months compared to control group. Inter-group comparison revealed a significant reduction in BANA in test group at 1 month. ORG were significantly reduced in test group when compared to control group.

CONCLUSION:
Within the limitations of the study, the present investigation showed that the adjunctive use of probiotics offers clinical benefit in terms of pocket depth reduction in moderate pockets and reduced oral malodor parameters.


Abstract
Streptococcus salivarius is naturally a predominant member of the human oropharynx and the commercial probiotic strain K12 has been consumed for more than a decade. The present study examines the health responses of human volunteers to oral ingestion of high doses of S. salivarius K12. A randomized group of 53 subjects received a dose of $1 \times 10^{10}$ cfu S. salivarius K12 (N=25) or placebo (N=28) for 28 days, followed by a 28-day wash out period. Blood, urine and saliva samples were collected at baseline and following treatment and analyzed, while the oral and gastrointestinal
tolerance of the subjects to the dosing regimen was determined by use of questionnaires. Adverse events (AE)s were recorded for both groups. No statistically significant differences between the probiotic and placebo treated groups were detected in either the blood clinical chemistry or hematology results (P>0.05). The questionnaire responses of the subjects indicated that both treatments were well tolerated. The frequency and intensity of AEs was similar in the two groups. This data demonstrates that the daily ingestion of S. salivarius K12 over a 28-day period does not adversely affect the human host and supports the safety of its oral delivery in a food-based carrier.