MyFitStrip®

wellness is personal

A personalized approach to assess & improve wellness outcomes

Saliva provides clues as to your future wellbeing Harvard Magazine, 2012

Improve your wellbeing with real-time saliva self-testing bundled with clinically-supported nutraceuticals & medical foods

Shawn J. Green | shawnjgreen@myfitstrip.com | 530.574.5099

Q4 2022 – Intro to Oral Wellness

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PROBLEM with wellness

Wellness varies wildly based upon dietary choice, dietary compliance, and individual biology

Wellness is **highly personal**

Difficult for consumers to conveniently measure the personal impact

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Consumers Need to Measure Impact

To enhance wellness, functional foods & nutraceuticals must be:

- ✓ bio-actively-rich and
- ✓ metabolically converted in your body to achieve a health benefit

Saliva Test Strips conveniently and immediately validate dietary effectiveness of health claimed functional foods & nutraceuticals

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Improving Consumer compliance and wellness outcomes

Saliva test strips by ***MyFitStrip*** drives dietary compliance for managing cardio, brain, immune & oral wellness

With ***MyFitStrip***, consumers:

- ✓ are engaged & tethered to their nutraceuticals & functional foods
- ✓ have access to instant and actionable feedback to make dietary adjustments, real-time

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The changing composition of metabolites in saliva provides clues as to one's health at that moment in time.

Immediate lifestyle adjustments through diet and exercise changes the composition, which, in turn influence both short- and long-term health outcomes.

The metabolites found in saliva are both 'bio-markers' of one's health and the very mediators that safeguard our wellness.

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Salivary nitrate is the new prebiotic for oral health…

Oral Disease **2013**, Hezel & Weitzberg

Oral Microbiome & Nitric Oxide Homeostasis

High concentration of nitrate & nitrite in normal saliva contributes to local generation of nitrogen oxide with protective anti-microbial activity.

Nature *Scientific Reports* **2020**, Rosier et al.

Nitrate as a prebiotic for the oral microbiome

Front. Cell. Infect. Microbiol. **2021**, Rosier et al.

Single dose of nitrate increases against acidification derived from sugar fermented by the oral microbiome

Nitric Oxide, 2021, Bahadoran et al

Inorganic nitrate: A prebiotic for oral microbiota dysbiosis

Increases salivary flow rate and prevents decreased pH by inhibiting acid-producing bacteria.

Randomized Controlled Trial *Free Radic Bio Med* **2018**, Vanhatalo et al.

Nitrate-responsive oral microbiome modulates nitric oxide homeostasis & blood pressure

Shift the growth of nitrate-reducing bacteria associated with local and systemic human health.

Prebiotic nitrate shifts the growth of bacteria associated with the development of cavities (*Streptococcus*, *Veillonella*, and *Orbacterium*), halitosis, and periodontitis to nitrate-reducing bacteria, *Neisseria* and *Rothia*, associated with oral health.

Prebiotic nitrate decreased the production of lactic acid and increases the pH in the mouth. The increased pH in the mouth limits enamel damage and prevents the development of cavities, the most common infectious disease in the world.

Dr. Rosier, Oral Microbiome Research Group of the Foundation for the Promotion of Health and Biomedical Research

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…and saliva nitrate reduces tooth decay & gum inflammation

A significant reduction in caries and counts of *Streptococcus mutans* and *Lactobacillus* spp. was found in patients with high salivary nitrate.

Doel JJ et al. Protective effect of salivary nitrate & microbial reductase against caries. ***Eur. J. Oral Sci****. 112 (2004) 424.*

Nitrite in the mouth, via the bioconversion from nitrate, inhibits growth, through nitric oxide production, of *S. mutans, Lactobacillus sp., A. naeslundii*, as well as, periodontal disease pathogens *Fusobacterium sp., E. corrodens and P. gingivalis.*

Mendez LS et al. Antimicrobial effect of acidified nitrite on cariogenic bacteria, ***Oral Microbiol. Immunol.*** *14 (1999) 391.*

Radcliffe CE et al. Effect of nitrite and ascorbic acid on the growth and acid production of St. mutans. ***J. Dent****. 31 (2003) 367.*

Allaker et al. Antimicrobial effect of acidified nitrite on periodontal bacteria. ***Oral Microbiol. Immunol****. 16 (2001) 253–256.*

Li et al. Salivary nitrate: an ecological factor in reducing oral acidity. ***Oral Microbiol Immunol****.* 2007 Feb;22(1):67-71.

Radcliffe CE et al. Effects of nitrite and nitrate on the growth and acidogenicity of S. mutans. ***J Dent****. (2002) 30:325.*

Increase in nitrate contributes to the overall protective effect against periodontial-associated pathogens affecting both hard and soft oral tissues.

Sanchez GA et al. Total salivary nitrates and nitrites in oral health and periodontal disease. ***Nitric Oxide****. (2014) 30:36:31.*

Sulfate-reducing bacteria, *Desulfovibrio spp.*, an agent associated with chronic periodontitis & implicated in bad breath is inhibited by nitrate.

Mitsui T et al. Salivary nitrate may have antimicrobial effects on Desulfovibrio species. ***Biosci Biotechnol Biochem****. (2013) 77:2489.*

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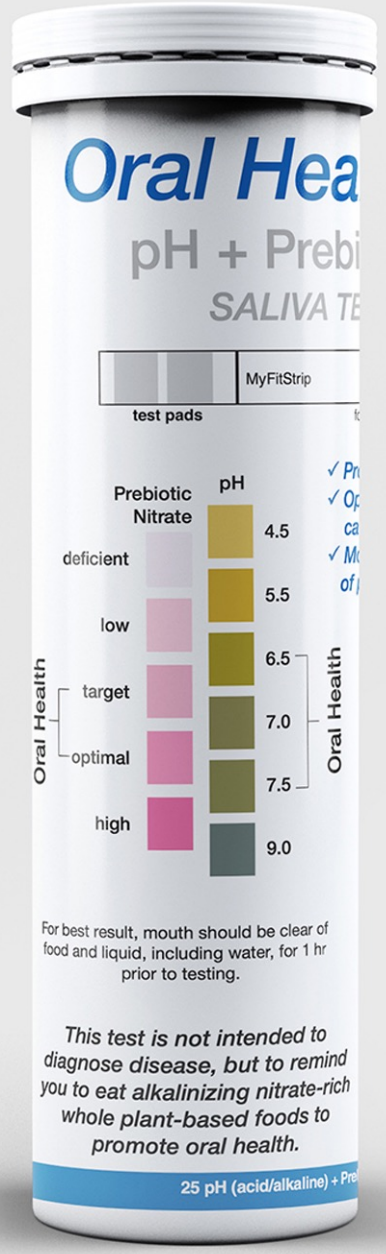
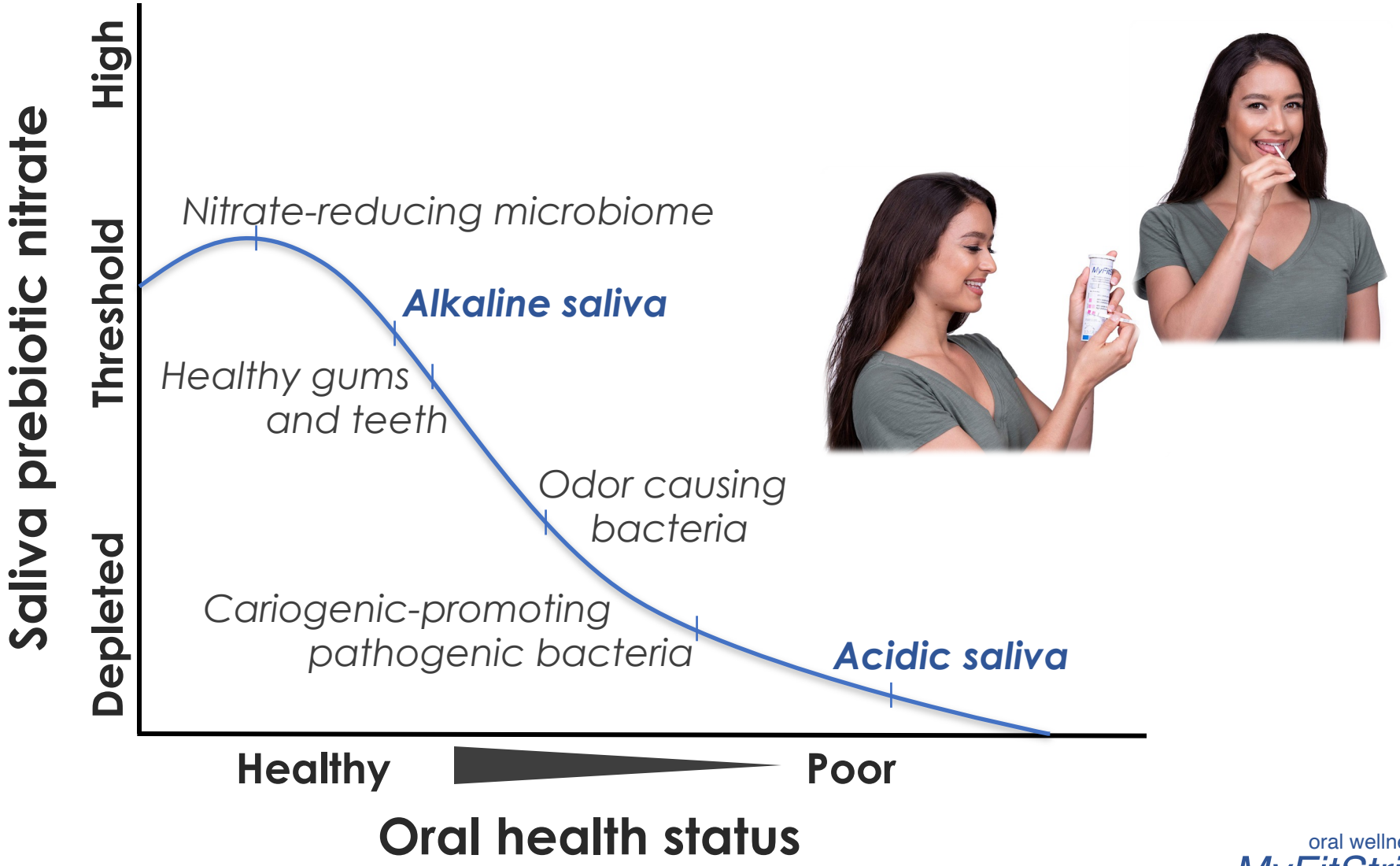


Monitor your saliva prebiotic nitrate & pH

MyFitStrip's Oral Health pH + Prebiotic Nitrate Test Strips



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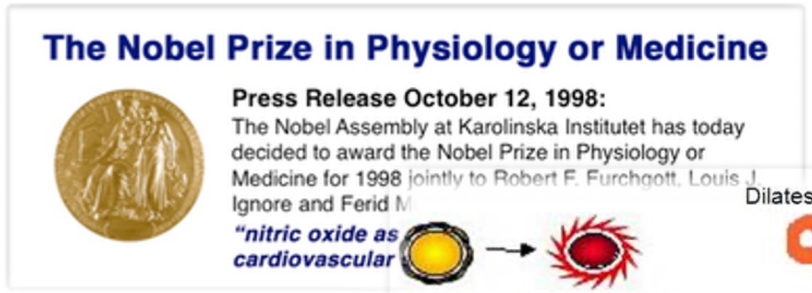
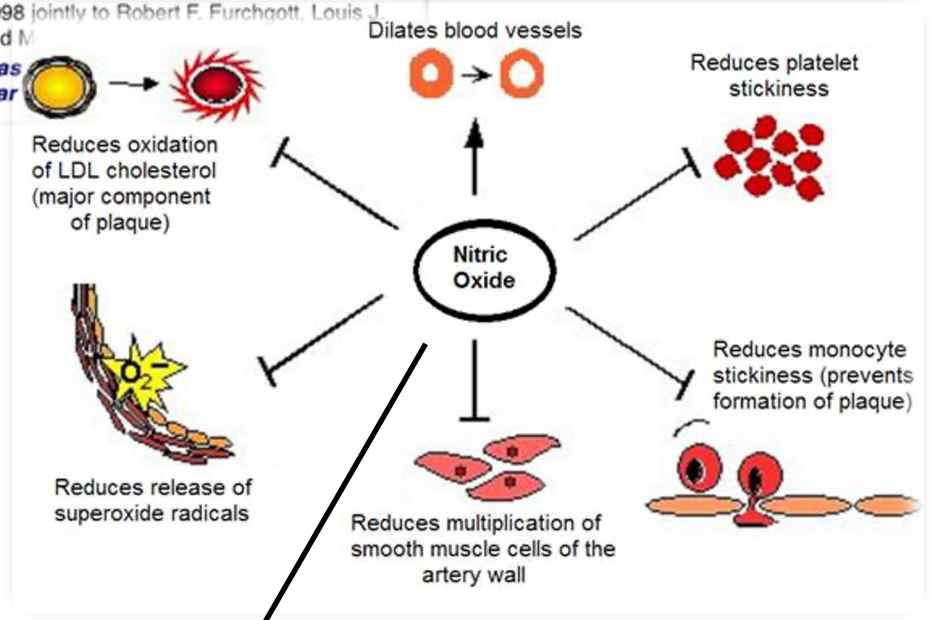
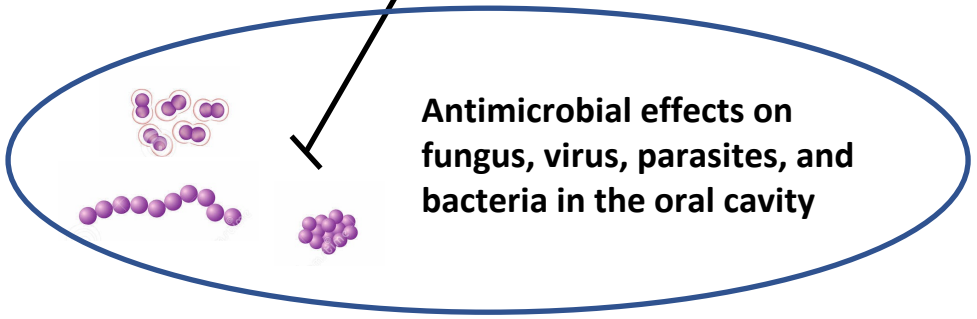
Prebiotic nitrate is a natural source for nitric oxide in the mouth







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Nitric Oxide in Oral Health

Ideal anti-plaque therapy	Listerine	Chlorhexidine	Nitric Oxide (NO)
Disrupt biofilm structure	✗	✓	✓
Penetration within biofilm matrix	✗	✗	✓
No bacterial resistance	✗	✗	✓
Broad spectrum	✓	✓	✓
Low cytotoxicity	✓	✗	✓

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Consumer-driven approach to oral health & wellness

What are my natural NOx anti-microbial and anti-inflammatory levels?

Monitor my NOx levels throughout the day:
promote oral NOx microbiome and maintain alkalinity

If acidic and low salivary NOx, restore balance with *MyFitStrip®*

a personal wellness model to increase compliance in oral health

Saliva Prebiotic Nitrate Test Strip by MyFitStrip® provides real-time and actionable feedback to drive dietary compliance and oral selfcare with MyFitStrip® proprietary bioactive chewing gum for oral wellness

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Product Development & IP

METHODS & COMPOSITION FOR IMPROVING INTRAORAL AND NASAL CAVITY NITRIC OXIDE

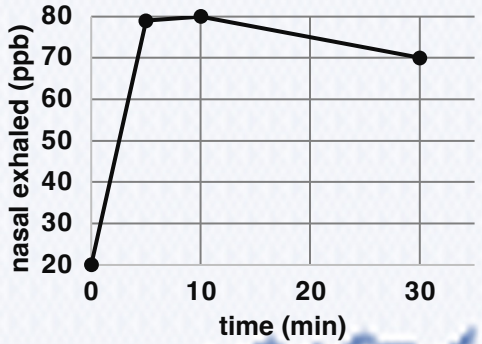
US Provisional Pat App: 63/402,149

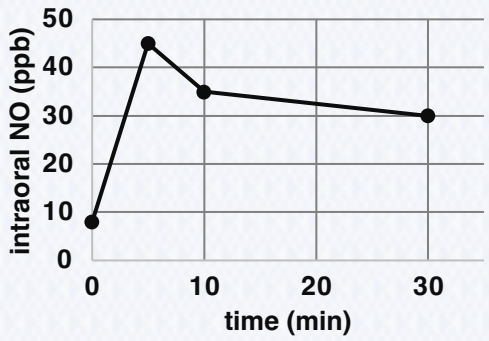
The present disclosure relates to improving oral-nasal health by immediately increasing intraoral and nasal cavity nitric oxide with a prebiotic nitrate-formulated chewing gum composition…

… and a `method prove to be effective in subjects with salivary pH below 5.5 resulting in salivary pH between 7.2 to 7.8, thereby reduce demineralization of the teeth and oral acidosis and acidogenic bacteria contributing to dental caries and periodontitis.

Aside from an immediate increase in prebiotic nitrate and nitrite, a biomarker for nitric oxide, the unexpected and novel discovery disclosed results from the intermittent chewing of a compression-type chewing gum to increase local antimicrobial nitric oxide gas…

…beneficial for reducing dental caries, periodontitis, and nasopharyngitis as well as reduce transmission of aerosolized infectious… .





METHODS FOR MANUFACTURING MEDICATED CHEWING GUM WITHOUT COOLING

US Pat: 9,744,128

An improved method for manufacture of chewing gums containing active ingredient(s) that preserves the efficacy of the active ingredient(s) by avoiding exposure to high heat and extreme cold during milling that can otherwise degrade the active's efficacy.

METHODS AND COMPOSITIONS FOR ALLEVIATING RESPIRATORY DYSFUNCTION

US Pat App: 16/936,036

Compositions, methods of manufacturing compositions, methods of protecting against respiratory problems including COVID…

…methods for improving nitric oxide levels in a subject disclosed herein comprise administration of compositions comprising inorganic nitrate… .

Increased pH in the mouth with prebiotic nitrate limits enamel damage and prevents the development of cavities, the most common infectious disease in the world.

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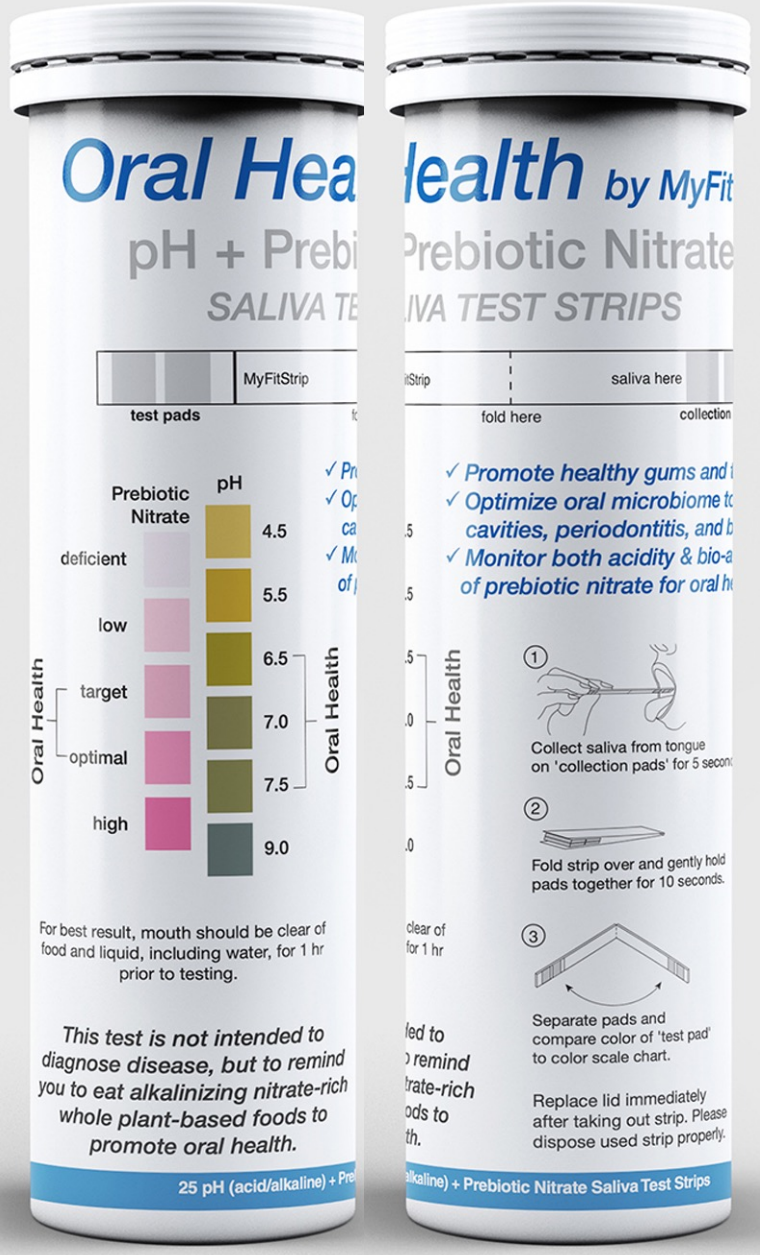
Salivary Nitrate as a biomarker for lower tooth decay. Mithra et al. 2012. *Res. Journal Pharm.*



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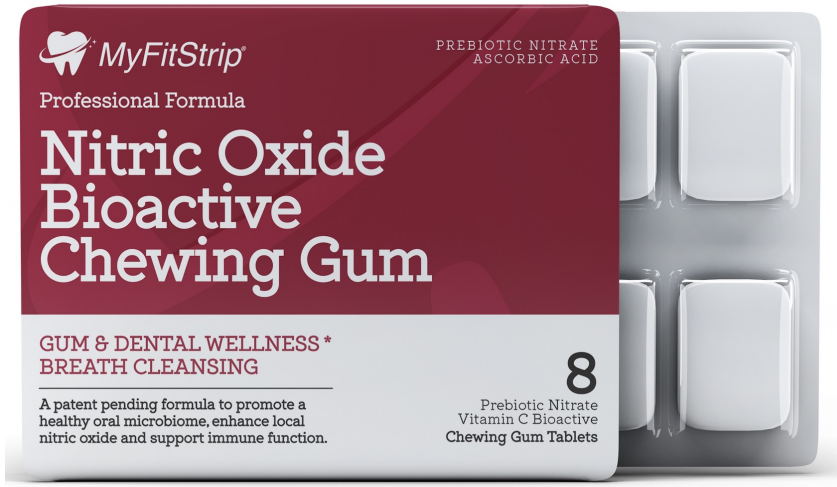
Oral Health & Wellness *by MyFitStrip®*

Prebiotic Nitrate + pH Test Strips

+ MyFitStrip's Nitric Oxide Bioactive Chewing Gum

- ✓ Saliva pH & prebiotic NOx
- ✓ Gum & Dental wellness
- ✓ Breath Cleansing
- ✓ Nitrate-reducing oral microbiome



CHEWING GUM COMPOSITIONS AND METHOD TO IMPROVE INTRAORAL AND NASAL CAVITY NITRIC OXIDE
Green; Shawn J. USPTO Patent Pending, 2022

Nitrate prebiotic for the oral microbiome. Rosier et al. 2020. *Nature*.
Protective effect of salivary nitrate activity against caries. Doel et al. 2004. *European Journal Oral Science*.

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Why MyFitStrip ?

We believe wellness is highly personal.

We want to empower each-and-every person to eat smart, live well, and be fit.

We change lifestyles one self-test and one healthy choice at a time.

MyFitStrip is a behavior-driven, clinically supported approach to wellness.

We are committed to shifting society's current practice of managing chronic conditions to preventing.

Our initial focus: to ensure optimal nitric oxide, a natural molecule vital to life, while taming an underappreciated inflammatory trigger, uric acid.

To discuss more, feel free to contact:

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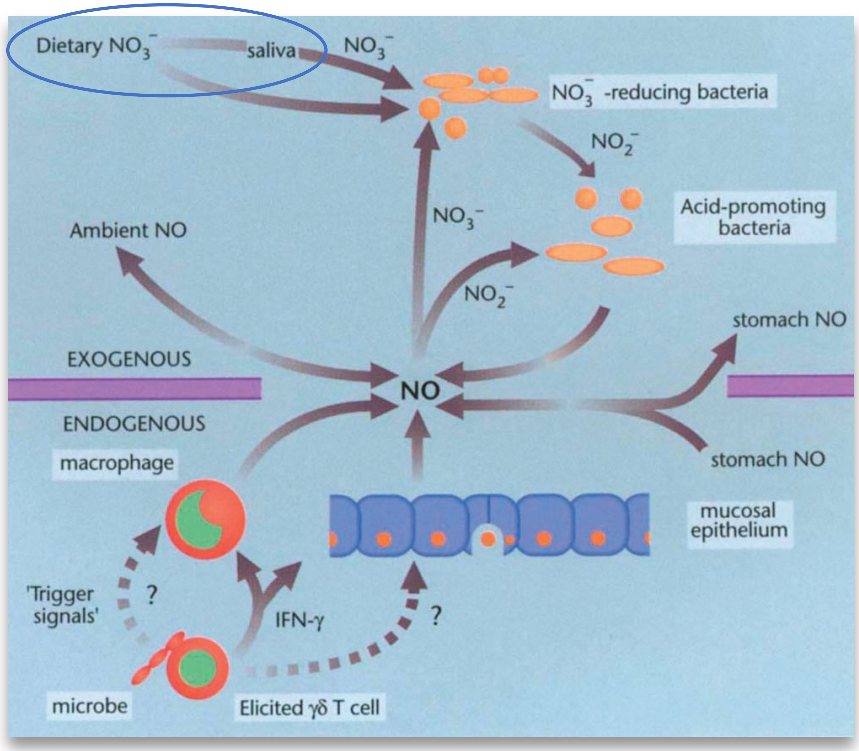
Rockville, Maryland

- ✓ Initial observations on the regulation of nitric oxide in innate immunity while serving at *Walter Reed Army Institute of Research*.
- ✓ Led development efforts on thalidomide analogs while serving as the Director of Discovery Research & the Thalidomide Program at. *EntreMed, Inc*. Today, thalidomide analogs are used in the treatment of myeloma.
- ✓ Created a discovery informatics platform with IBM, John Wiley & Sons, OSU, Bristol Myers Squibb, Fujitsu among others life science players as CEO at *Labbook, Inc*.
- ✓ Founded *Berkeley Test* and invented *Berkeley Life Professional,* a patented nitric oxide dietary supplement.
- ✓ Collaborating with *Calroy Health Science* on the co-development of the next generation nitric oxide nutraceutical to maintain healthy blood pressure & promote endothelial wellness: *Vascanox, an orally-active, clinically-validated, long-lasting nitric oxide-hydrogen sulfide nutraceutical.*
- ✓ Developing a family of saliva self-test strips to monitor 'wellness biomarkers' bundled with natural products, such as *MyFitStrip's Bioactive Nitric Oxide Chewing Gum,* to influence metabolites that safeguard our wellness.

Google Patent, LinkedIn, or Google Scholar: Shawn J Green



Green, Shawn J. **Nitric Oxide in mucosal immunity.** 1995 ***Nature Medicine*** *6:515-1517*

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