





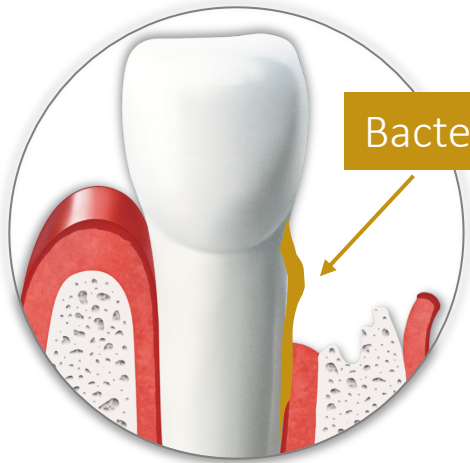
## Synopsis

- Most adults experience episodes of gingivitis, which can progress to the irreversible, chronic state of periodontitis
- **Inflammatory lesion** of the tooth-supporting soft tissues
- Induced by dysbiotic plaque biofilm, an “**imbalance**” in the oral microbial community
- **Dental and oral health** is an essential part of your overall health and well-being.





# Gingivitis, a precursor to periodontitis



- Gingivitis, a precursor to periodontitis, caused by a **bacterial biofilm** (dental plaque) accumulating on teeth adjacent to the gingiva (gums).
- **Gingivitis is a reversible**, non-destructive form of periodontitis producing an **inflammation of the supportive tooth tissues** but without detachment or bone loss.
- **Periodontitis** occurs when the **inflammatory process** leads to a **loss of the periodontal ligament (PDL)** attachment from the dentition with **gum recession and eventual bone loss**
- Periodontal inflammation is associated with **systemic conditions** such as **diabetes and cardiovascular disease** and is a major public health problem affecting 10%–15% of the world's population.





# Gingivitis, biological mechanisms and consequences

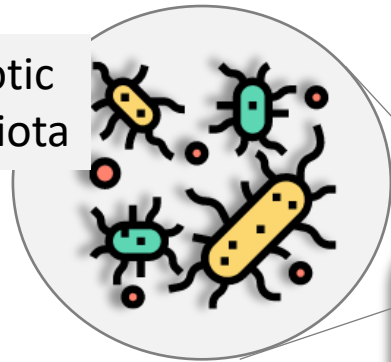


*Porphyromonas gingivalis*  
invasion

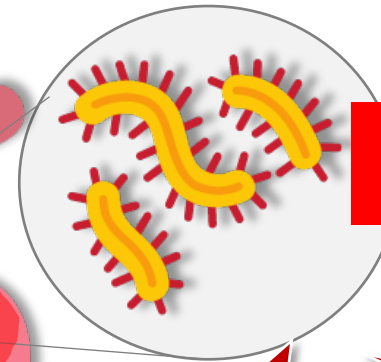
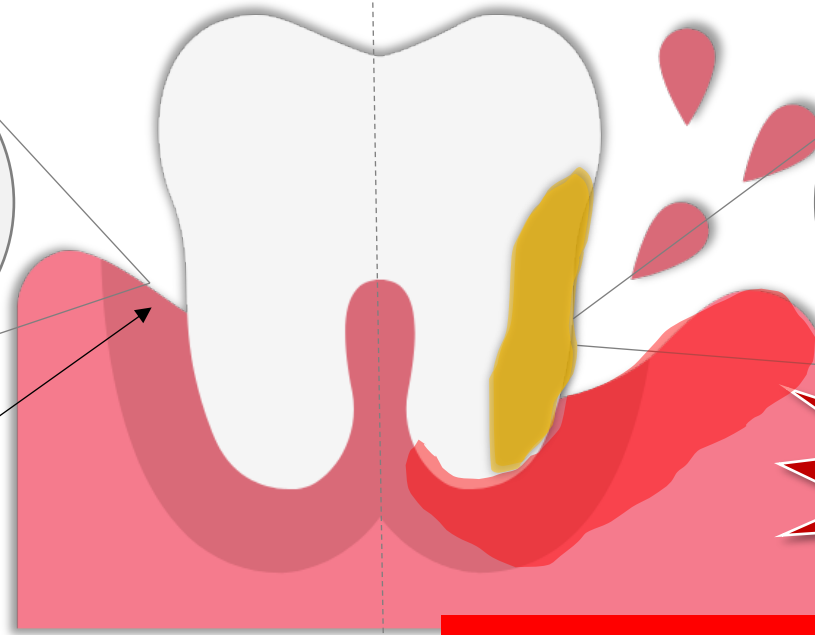
Healthy gingival tissue

Diseased gingival tissue

Symbiotic  
microbiota



Epithelial cells



↗ Microbiome  
dysbiosis

↗ Cytokines

↗ ROS

↗ Immune Cell  
senescence

↗ Inflammation

↗ Oxidative stress

↗ Gum recession ↗ Bone resorption

Damage of the supportive tissues surrounding teeth





# ALPIN HEILMOOR EXTRACT™ a new solution for oral and dental health

## IN VITRO ANALYSIS

### SYMBIOTIC MICROBIOTA



#### PORPHYROMONAS GINGIVALIS

- Controls *P. Gingivalis* growth

### ORAL EPITHELIAL BARRIER STRENGTHENER



#### DIFFERENTIATION MARKERS

- E-Cadherin B1: + **57%**
- E-Cadherin B2: + **25%**

### TARGETS CELLULAR SENEESCENCE



#### CELLULAR SENEESCENCE MARKER

- Senescent cells: - **21%**
- Wound healing potency: + **250%**

### ANTI-OXIDANT



#### OXIDATIVE STRESS / GLYCATION MARKERS

- ROS production: - **43%**
- RCAN1 expression: - **85%**
- NO production: - **77%**
- 8-isoprotane: - **40%**
- RAGE Expression: - **64%**

### ANTI-INFLAMMATORY



#### PRO-INFLAMMATORY MEDIATORS

- ISOPROSTANE: - 60%
- IL-6 release: - 34%
- IL-8 release: - 36%
- PGE2 release: - 65%
- MCP-1 expression: -87%
- MMP9 expression: - 43%

## PROVEN EFFICACY: CLINICAL STUDIES



### WHITENING EFFECT

- 15% **TOOTH SHADE**
- 75% **PLAQUE INDEX**

### GUM REPAIR AND PROTECTION

- Reduction of **PORPHYROMONAS GINGIVALIS**
- 77% **GINGIVA INDEX**



### HIGHLY APPRECIATED BY CONSUMERS

- 80% of volunteers **BAD BREATH IMPROVEMENT**

- 95% of volunteers **SOOTHE SORE GUMS**



# ALPIN HEILMOOR EXTRACT BENEFITS

## CUSTOMER BENEFITS

- Innovative, 100% natural, CO<sub>2</sub> neutral bioactive
- Sustainable quarrying and extraction
- Standardized extract AND innovative process
- Easy-to-formulate, no predispersion is required
- Heilmoor has a positive reputation and a long tradition

## ORAL BENEFITS

- Maintaining & balancing the oral microbiome by preventing *P. gingivalis* growth and invasion
- Strengthening oral epithelial area
- Protecting the oral microbiome
- Preventing inflammation
- Preventing oxidative stress
- Reducing senescence
- Promoting cellular healing & repair capacity

## CONSUMER ORAL BENEFITS

- Reduction of bacterial biofilm and dental plaque
- Oral well-being
- Fresh breath
- Healthy gingiva
- Whitening effect
- Healthier general oral feeling
- A black Heilmoor toothpaste also receives higher (expected) efficacy and quality ratings than a white counterpart, showing the positive echo from consumers for AHE







# ALPIN HEILMOOR EXTRACT™

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