

PLANOral™

SYNERGY IN A UNIQUE BLEND

The oral cavity forms an indispensable part of the human microbiome, for its unique and diverse microflora distributed within the periodontal crevice and pockets, tongue dorsum and other mucosal surfaces.

Some of these bacteria are implicated in the pathogenesis of oral diseases such as caries and periodontitis; *Porphyromonas gingivalis* is a main etiological factor in periodontal diseases.

The oral microflora includes up to approximately 1000 species of bacteria, fungi, viruses, archaea and protozoa that live in the human oral cavity. The oral microflora, in a healthy host, under normal conditions, maintains balanced symbiotic relationships, which have been defined as a "microbial homeostasis" or "eubiosis". Despite the resiliency, insults or changes can shift the eubiotic balance to an unbalanced parasitic/pathogenic state, known as "dysbiosis" in the host.



Skullcap

Scutellaria lateriflora L. is mainly known as nerve tonic and sedative with anxiolytic properties. The antimicrobial, antioxidant and anti-inflammatory activities are also documented.

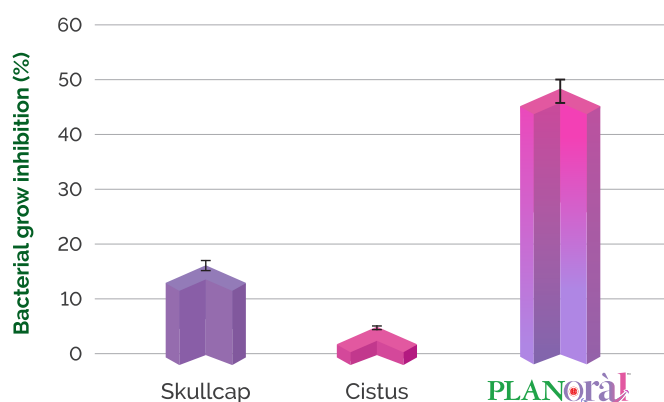
Cistus

Cistus x incanus L. has strong antioxidant properties and it has also been used as antimycotic, antibacterial and antiviral. It is used in the relief of gastric and respiratory ailments.

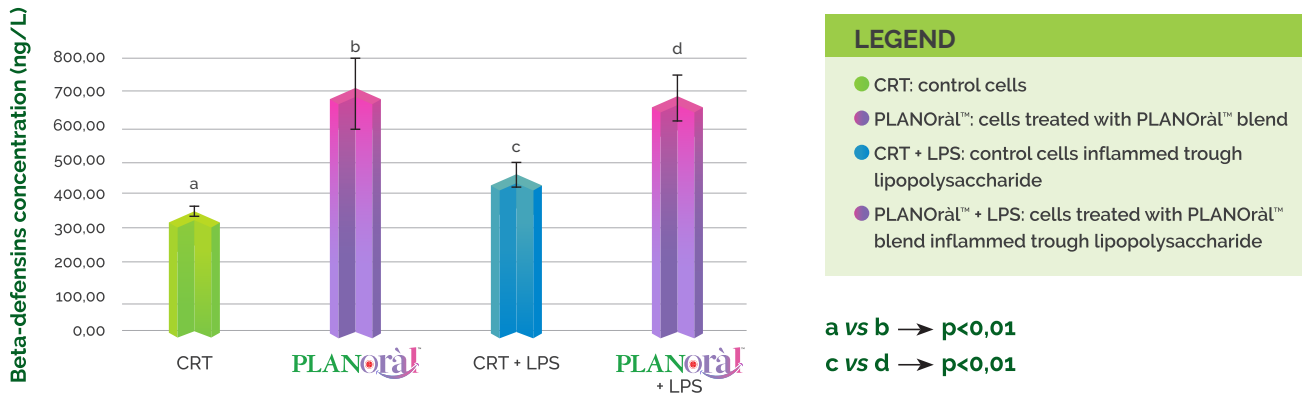
Scutellaria lateriflora L. and *Cistus x incanus* L. work synergically in a unique blend (patent N. IT 102021000018035) acting as antibacterial against *Porphyromonas gingivalis* to prevent periodontitis.

a vs c → $p < 0,01$

b vs c → $p < 0,01$



The efficacy of Planoràl is also proved by the induction of beta-defensins release with and without the presence of inflammation. β -Defensins are primarily expressed by epithelial cells at mucosal surfaces and have a broad spectrum of antimicrobial activity, being effective against Gram-positive and Gram-negative bacteria, fungi, and enveloped viruses. In addition to their antimicrobial action, defensins are involved in a variety of cellular functions, including stimulation of immune system by cell chemotaxis, cytokines secretion and histamine release.



Dental caries and dental plaque are among the most common diseases worldwide and are caused by a mixture of microorganisms and food debris. Specific types of acid-producing bacteria, especially *Streptococcus mutans*, are the main cause of caries. The presence of *Scutellaria lateriflora* L. extract in Planoràl contributes to the antibacterial activity of the blend against this pathogen (the bacterial growth inhibition accounts for ~70% compared to ampicillin).

Not too long ago, literature evidence began to suggest a possible link between chronic oral inflammation and some systemic diseases. In fact, periodontitis is a constant potential source of infection and inflammation, and it has been considered as a separate risk factor for cardiovascular, cerebrovascular and respiratory diseases, as well as a potential risk for increased morbidity and mortality for diabetes, insulin resistance, rheumatoid arthritis, obesity, osteoporosis and complications of pregnancy.



ESTRATTI PIANTE OFFICINALI

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