Consulting in Human Health, Toxicology & Regulatory Affairs

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Jerusalem August 10, 2020

Summary for the Product *FLORMEL*

FLORMEL is a product from Zuf Globus which aims at promoting and keeping proper oral health when the balance of the oral cavity has been disrupted. The product is recommended for those who need complementary treatment in cases of gingival recession, bleeding gingiva, aphthous stomatitis and may also serve as a first aid for toothaches. Due to its antibacterial properties it can also be an agent in preventing tooth decay (dental caries). *FLORMEL* herbal and beehive components support a healthy oral cavity.

FLORMEL is comprised by a unique blend of herbs which are known for their biological activities on the oral cavity. In addition, *FLORMEL* has in its composition, propolis and a small amount of Defensemel which act as immunomodulators and adaptogens with strong antioxidant and anti-inflammatory activities. The biological activities produced by the chemical constituents of these herbs and propolis are recorded on the WHO monographs and are corroborated by numerous peer-reviewed scientific publications.

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The main biological activities of *FLORMEL related* to its herbal components is listed below:

1) *Uncaria tomentosa*

Uncaria tomentosa has been used for centuries in various medical conditions. There are some conditions reported to be improved by *Uncaria tomentosa*, including certain types of inflammatory processes, infections and cancer. Both experimental and clinically validated data indicate that this herb may be a potential source of treatment for denture stomatitis and other oral infections.

2) *Echinacea purpurea*

Echinaceae Purpureae immune-stimulation activity has been widely described in the scientific literature.

Oral administration has been reported as a supportive therapy for colds and infections of the respiratory and urinary tract. These beneficial effects are generally thought to be brought about by stimulation of the immune response mainly by activation of phagocytosis and stimulation of fibroblasts.

3) *Sambucus nigra*

Flavonoids represent the major characteristic constituents, mainly kaempferol, astragalin, quercetin, rutin, isoquercitrin and hyperoside. In addition, triterpenes, sterols and phenolic acids are also present. These components have strong anti-inflammatory and diuretic activity. A recent study reports an anti- influenza activity (the common flu virus).

4) *Polygonum aviculare*

This component of the formula has shown to have diverse biological functions including hepato-protective effects, anti-inflammatory and platelets and anti-aggregatory effect. In addition, recent study reports the *Polygonum aviculare* may reduce fatigue by suppressing neuroinflammation.

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5) *Eleutherococcus senticosus*

Eleutherococcus Senticosus, also called Siberian ginseng, was reported to have adaptogenic/ anti-stress activity and may boost mental performance. In addition, it may stimulate the immune system. *Eleutherococcus Senticosus* also shows anti-microbial activity.

6) *Eucalyptus globulus*

The major constituent in the leaves of this tree is eucalyptol, with smaller amounts of a-pinene and p-cymene. In experimental models, these substances were reported to produce an antimicrobial and anti-inflammatory activities. In addition, clinical data supports both nasal decongestion and analgesic activity by these compounds.

7) *Salvia officinalis*

The major groups of compounds found in this plant are flavonoids (mainly rosmarinic acid and luteolin-7-glucoside) and terpenes. These compounds biological activities are well documented and used to aid the treatment of different kinds of digestive disorders. In addition, several pre-clinical studies report potent anti-microbial effects against different oral bacteria and fungus as well as potent anti-inflammatory effect.

8) *Ceratonia siliqua*

The main groups of active chemicals found in the fruits of this tree are polyphenols, flavonoids and tannins. Different minerals were identified as well.

These herbal constituents exhibit both potent antioxidant and anti-inflammatory activities. In addition, an anti-microbial effect were shown. In the gastrointestinal tract, these compounds exhibit an Anti-diarrheal and anti-ulcer effects.

9) *Beta vulgaris*

Beta Vulgaris displayed potent antioxidant, anti-inflammatory and chemo-preventive activity *in vitro* and *in vivo*. In addition, as a source of nitrate, it can be beneficial in increasing nitric oxide (NO) availability in pathologies such as hypertension which can also be related to oral health.

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10) *Medicago sativa*

The main active constituents found in *Medicago sativa* are saponin aglycones. There are numerous reports from in vivo studies showing that this herb can lower blood cholesterol levels and to inhibit atherosclerotic plaque formation. In addition, recent studies indicate the use of *Medicago sativa* to aid reliving digestive discomfort.

11) *HIZUKMEL (DEFENSEMEL)*

DefenseMel is a product from Zuf which aims at strengthening the homeostasis by acting as an immunomodulator and adaptogen with strong antioxidant and anti-inflammatory activities as well as anti-stress activity and may boost mental performance. The product is recommended for healthy people who want to strengthen the body systems and fight agents that cause stress.

12) *Propolis*

Propolis is a complex mixture made by bee-released and plant-derived compounds. While more than 300 constituents were identified in different samples, the major groups of chemicals found in propolis are polyphenols, terpenoids, benzoic acid and derivatives, cinnamic acid and its derivatives. Sterols and minerals are also present. These constituents provide a wide range of biological activities such as antibacterial and antifungal effects, as well as potent antioxidant and anti-inflammatory effects. Propolis also exhibit inhibitory effect on cultured intestinal parasites

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