Expert opinion about
NBF Gingival Gel

(the NBF Gel marketing certification in Hungary)

Oral Care Gel and gingiva-multifunctional gel/toothpaste
which contain nanoemulsion from potent antioxidant
(Propolis, Vitamin C and Vitamin E)

This gingiva-protecting, high functional toothpaste contains Propolis, Vitamins C and E. It is important that it does not contain any artificial materials such as antibiotics, anesthetics, steroid or non-steroid anti-inflammatory agents, dyes, colouring agents, artificial flavors, sugar and it is free from Sodium Lauryl Sulfate (SLS).

NBF GINGIVAL GEL as multifunction gel/toothpaste on the basis of NBF technology is product for extra protection of the gingiva (gums) and oral mucosa against plaque and halitosis (bad breath).

NBF Gingival Gel was created using revolutionary Nano-Bio Fusion Technology. Once applied to the gingiva, palate and/or the oral mucosa NBF Gingival Gel is rapidly absorbed and maintained with a nano-bioactive protecting film.

The nano-emulsion contained in the gel harnesses the naturally occurring antioxidant properties of Vitamin C and Vitamin E, and the antimicrobial and soothing properties of Propolis.

After the application is created a protective nanoemulsion film from powerfull antioxidants which are soluble and not bioaccumulative and on that way the gel allows nourishment, rejuvenation, soothing and protection of the mouth tissue.

The powerful antioxidant infused nano-gel, reduces free radicals, which in addition to bacteria build up are contributing factors in gum inflammation.

NBF Gingival Gel optimizes the oral health.

The propolis and Vitamins C and E posses excellent antioxidant properties.

Thanks to the nanotechnology, these substances are able to enter the cells more easily and more quickly, and their effects are therefore exerted more rapidly.

The terms „gingiva-protecting" and „functional" relate to the fact a very fine nano-emulsion is formed on the surface of the oral mucosa, and can therefore exert its antioxidant effects.

Oxidative stress is a disturbance in the systemic balance of oxidants and antioxidants. It is the result of overproduction of free radicals, including reactive oxygen species, or ROS. Oxidative stress may be systemic, affecting the whole body, as well as localized, as in oral soft tissues. Recent studies have shown that inflammation and oxidative stress are causative factors common to many chronic diseases, including periodontitis, atherosclerosis, diabetes, and rheumatoid arthritis. Also, gingivitis and periodontitis are contributing factors to oxidative stress and, therefore, to inflammatory disease. Oral cells are uniquely susceptible to free radical damage because the mucus membranes allow rapid absorption of substances across their surfaces. In oral tissues, infection from gum disease can generate oxidative stress as can alcohol, nicotine, hydrogen peroxide, and other dental procedures and substances such as hydrogen peroxide, dental cements, composite fillings. The increase in free radicals from oxidative stress leads to further breakdown of cell walls and oral tissue. Not only does oxidative stress exacerbate inflammation in the oral tissues, recent scientific studies have shown it is a contributing factor to systemic inflammatory diseases, including rheumatoid arthritis and cardiovascular disease. Because of the association between gum disease, inflammation and oxidative stress, it is critical to control gum disease and to maintain the balance between oxidants and antioxidants in oral tissues.

Maintaining a good balance of oxidants and antioxidants is important for oral health as well as systemic health. There are several thousand antioxidants, including enzymes, vitamins, minerals and other nutrients and compounds. Some antioxidants are produced within the body; others, such as vitamins A and C, must be provided by external sources.

An emerging field of science and health is the use of topically applied antioxidants. Scientific and clinical research has already shown that certain antioxidants applied topically can be counteract the damaging effects of free radicals on skin cells.

Studies published in peer-reviewed journals have identified a handful of antioxidants that are highly effective in PROTECTING HUMAN SKIN from ultraviolet light-induced skin damage and oxidative stress.

(Uses of vitamins A, C, and E and related compounds in dermatology : A review , KELLER K. L.; FENSKE N. Journal of the American Academy of Dermatology ISSN 0190-9622 CODEN JAADDB Source / Source 1998, vol. 39 (1), n o 4, pp. 611-625 (200 ref.)

Specific combinations of vitamin C and vitamin E have been shown to REDUCE THE AMOUNT OF FREE RADICAL COMPOUNDS associated with UV-induced inflammation, i.e., sunburn.

(Cutaneous photodamage, oxidative stress, and topical antioxidant protection PINNELL Sheldon R. Journal of the American Academy of Dermatology ISSN 0190-9622 CODEN JAADDB Source / Source 2003, vol. 48, n o 1, pp. 1-19 [19 page(s) (article)] (271 ref.)

Based on the results of these scientific studies, the antioxidants (vitamin C, vitamin E) have been formulated into compounds for topical application to skin cells. Further research has confirmed that this form of application is effective in COUNTERACTING THE DAMAGE caused by UV rays on the skin.

Propolis often comprises more than 180 natural compounds, many of which are concentrates of powerful antioxidant plant flavenoids and phenols. This finding, through chromatographic analysis for example, has led to many new and research-proven benefits over the last 8 years (Castaldo and Capasso, 2002). Flavenoids are known to have powerful antioxidant benefits. Matsushige et al 1996 isolated a compound from propolis to show that it

had a stronger antioxidant benefit that vitamins C and E. The antioxidant capacity can prevent the free radicals acting on the cell lipids, proteins and even the DNA.

The success of topical antioxidants on skin cells suggests a promise of similar effectiveness of topical compounds on cells in the oral cavity.

(A topical antioxidant solution containing vitamins C and E stabilized by ferulic acid provides protection for human skin against damage caused by ultraviolet irradiation. John C. Murray, James A. Burch, Robert D. Streilein, Mary Ann Iannacchione, Russell P. Hall, Sheldon R. Pinnell. JAAD Volume 59, Issue 3, Pages 418-425 (September 2008)

Research studies are currently under way to examine the effectiveness of combinations of antioxidants applied topically to oral cells. Results from clinical studies, though incomplete, are positive. In addition, these published research studies confirmed that antioxidants that work on skin cells also have an effect on oral (gingival and periodontal) cells Combinations of antioxidants reverse the inhibitory effects of nicotine on wound-healing associated cell migration.

(Antioxidants Counteract Nicotine and Promote Migration via RacGTP in Oral Fibroblast Cells, J. Periodontology, 2010 Nov; 81(11): 1675-90. Epub 2010 Jul. 17.)

Nicotine impairs migration of gingival and periodontal fibroblasts. Treatment with combinations of antioxidants showed synergistic effects in restoring cell migration after wound creation.

(Antioxidants Increased In Vitro Wound Healing of Nicotine-Treated Oral Fibroblasts, FASEB J. April 2010 24 (Meeting Abstract Supplement 181.2)

Antioxidants may have beneficial effects on regulating fibroblast proliferation during gingival healing or periodontal repair.

(Antioxidants Promote Proliferation of Human Gingival and Periodontal Ligament Fibroblasts, presented at AADR Annual Meeting, March 3-6, 2010.)

Propolis posses high anti-cariogenic and anti-biofilms activity and it is able to inhibit cariogenic bacteria and oral biofilms formation.

(Anti-cariogenic and anti-biofilms activity of Tunisian propolis extract and its potential protective effect against cancer cells proliferation. Kouidhi B, Zmantar T, Bakhrouf A. Anaerobe. 2010 Dec;16(6):566-71)

(Inhibitory Effect of Bursa Propolis on Dental Caries Formation in Rats Inoculated with Streptococcus sobrinus. Gamze BOZCUK ERDEM, Seval LMEZ. Turk J Zool 28 (2004) 29-36.)

*** Both the international and the Hungarian reviews of literatures indicate its good applicability for optimization of the oral health through increasing of the antioxidant potentinal in the oral cavity and reducing of the biological demage of the oral tissues from the free radicals. On that way this gel offer extra protection of the oral cavity (gingiva, palate and oral mucosa) during the:

- treatment of gingival diseases, gingivitis, periodontal disease and bad breath (halitosis),
- primary healing after surgery on the oral cavity;
- healing of burn wounds (e.g. caused by leser treatment);
- in cases of poorly-healing wounds in the oral cavity;
- the treatment of aphtha or herpes;
- in cases of lichen or erythroplakia;
- in cases of xerostomia.

The gel with own high antioxidant and protection properties promote the faster healing of dermal and mucosal wounds and epithelization.

The permission relating to its commercial availability refers to this product as a functional oral care gel/toothpaste, but the literature data demonstrate that it is also outstandingly suitable for the protection of poorly-healing or burned oral and skin wounds.

Producer: NanoCureTech, Seoul, Korea.

Hungarian Registration number of the Országos Élalmezési- és Táplálkozástudományi Intézet (the Hungarian Food and Drug Administration): 743/2010 OETI

The investigations in Hungary were performed at the Department of Oral and Maxillofacial Surgery and Dentistry, Semmelweis University, Budapest.

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Sincerely,
03 th December 2013,

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Prof. Dr. György Szabo is one of the leading dental and maxillo-facial surgeons in Hungary and in Europe. He received an extensive medical and dental training as well as qualification in maxillo-facial surgery, implantology and bone reconstruction. For 25 years he carried out extensive duties as a Head of the Department of Oral and Maxillo-facial surgery in the teaching hospital of Semmelweis Medical University of Budapest (February 1981 – June 2009 (28 years 5 months) - Head of Department of Oral & Maxillofacial Surgery Department on Semmelweis University, (Budapest, Hungary)). A former president of Hungarian Society of Oral and Maxillo-Facial Surgeons, an honorary member of various surgical boards. Dr. Szabo has a wide clinical practice and has excelled in all fields of oral surgery especially in the implantology.
He is member of the EURO BOARD ORAL MAXILLOFACIAL SURGERY (EBOMFS).

Holds degrees in medicine and dentistry, dental and maxillo-facial surgery. A certified general surgeon.

Trained in the field of otolaryngology, as well as dental and maxillo-facial surgery in Paris (Salpetriere) in 1971-1972. Associate professor of head and neck surgery at the University of Szeged (Hungary) in 1976-1980. Head of the department of dental and maxillofacial surgery at the Semmelweis Medical University, Budapest, in 1981.

As a guest lecturer lectured on dental and maxillofacial surgery in Germany, the UK, the Netherlands, Austria, Italy, Czech Republic, France, Portugal, India, the U.S., Canada, Mexico, Chile, etc.,

President of the Hungarian Society of dental and Maxillofacial Surgeons (1982-1994 years), member of the Board and Executive Committee IAOMS (International Association of dental and maxillofacial surgeons) in 1992-1995.

Honorary member of the French, Austrian and Croatian association of dental and maxillofacial surgeons, society Societas Implantologica Bohemica, the Kosovo Association of dental and maxillo-facial surgeons of the Royal College of Surgeons.

He was awarded the title of Honored Member of the International Association of dental and maxillofacial surgeons. Diploma of the International Congress of Dental Implantology (USA). Chairman of the XII International Congress of dental and maxillofacial surgeons (Budapest, 1995).

He is one the members of the Advisory board of The German Society of Oral and Maxillofacial Surgery (abbreviated DGZMK) and of the most influental journal in the of Oral and Maxillofacial Surgery this filed - Der MKG-Chirurg journal (the Journal of Oral and Maxillofacial Surgery).

Member of the editorial boards of: - International Journal of Oral and Maxillofacial Surgery (International Journal of dental and maxillo-facial surgery), (1978-1985) - Regional Cancer Treatment (magazine "The treatment of locally advanced cancer»), (Springer, 1985-1999) - Journal of Long-Term Effects of Medical Implants (Magazine "Long-term effects of medical implants»), (CCR Press, 1990-2000) - Journal of Oral and Maxillofacial Surgery (Journal of Dental and Maxillofacial Surgery), (1991 - 1998) - Acta Chirurgica Austriaca, (1990-2004) - The Journal of Craniofacial Surgery (Journal of Craniofacial Surgery), (c 1989) - Lege Artis Medecinae (Budapest, 1989-2000) - The Journal of Cranio-Maxillofacial Surgery (Journal of cranio-and maxillo-facial surgery) (1989-2003), etc.

Prof. Dr Szabo is author of over 300 Journal publications and 4 complete books and materials for dental and maxillo- facial surgery published in Hungarian, English, Russian, and Chinese language.

He is member of the Management Council of the Union européenne de médecins spécialistes (UEMS) - The European Union of Medical Specialists (UEMS), founded in Rome on 1958, grouped together specialist doctors regardless of their field or mode of practice, or their legal status. Its object being the advancement and harmonization of the quality of specialist medical practice in Europe and the defence, at international level, of the status of the medical specialist and of his/her professional role in Society.