

## Vitreoscilla Filiformis, A Spa Spring Water Bacterial Strain used Since Centuries as an Original Translation of Probiotics' Benefits to Skincare

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Atopic xerosis and dandruff are both sub-inflammatory skin disorders driven by immune dysfunctions and are characterized from early stages by itch and delay in healing. As recently described, these two disorders are associated with specific dysbiosis of the skin microbiome with altered microbial diversity characterized by excess of *Staphylococcus* spp. or *Malassezia* spp., respectively. In skin aging as a subclinical condition, a dysbiosis was also recently described with an overabundance of oral bacterial strains usually not present on the skin together with a decrease of a commensal strain (*Cutibacterium acnes*). These dysbiosis and associated clinical signs may be controlled by Toll Like Receptor (TLR) specific ligands.

The notion of dermatological thermal water-based treatments is dating back to Ancient Greece and the Roman Empire. In 1950, French scientists created a new skincare product using a mineral water from the thermal springs of Moutg-les-Bains in the Pyrenees mountains. They explained the skin rejuvenating and protecting activities of this product by the presence of a living specific non-pathogenic filamentous bacterial strain unique to these springs: *Vitreoscilla filiformis*.

Clinical studies published in many journals of dermatology validated that this harmless bacteria could improve skin health and confer benefits similar to probiotics for gut health. The action mechanism of *Vitreoscilla filiformis* strain has recently been understood: it contains TLR ligands which regulate the skin barrier function and skin innate defenses through microbiome balance.

As also known from probiotics, this TLR signaling induces tolerogenic interleukin-10 which may explain the clinical effects of *Vitreoscilla filiformis*.

### Biography:

Dr Lionel Breton got a PhD in 1982 in general Endocrinology in the lab of Pr R.Michel and Pr J.Roche at College de France in Paris. Then, he got a State Doctorate in general Pharmacology in Poitiers Hospital in 1985. After a 1st position in Servier Laboratory as Project leader in neuro-pharmacology, Lionel joined L'Oreal corporate 25 years ago. He is also visiting Professor/affiliate member in the prestigious University McGill in Montreal. He is an expert on neurobiology, skin neuro-immunology, skin physiology, skin and gut microbiology and translational research. He is currently Scientific Director in L'Oreal Research. Lionel is co-inventor of more than 1000 national patents and applications (espacenet results/world database) and 3 blockbusters of L'Oreal corporate. Although Industrial, he has published more than 50 papers in in peer-reviewed journals and is frequently invited to give plenary conferences or keynotes.