

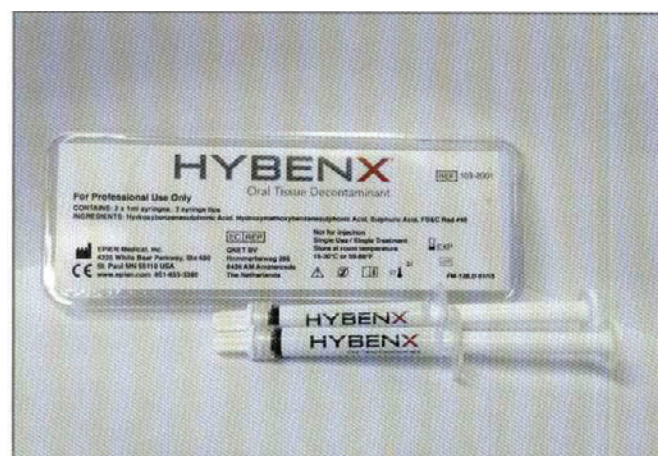
**HYBENX<sup>®</sup>** is available in the following packages:



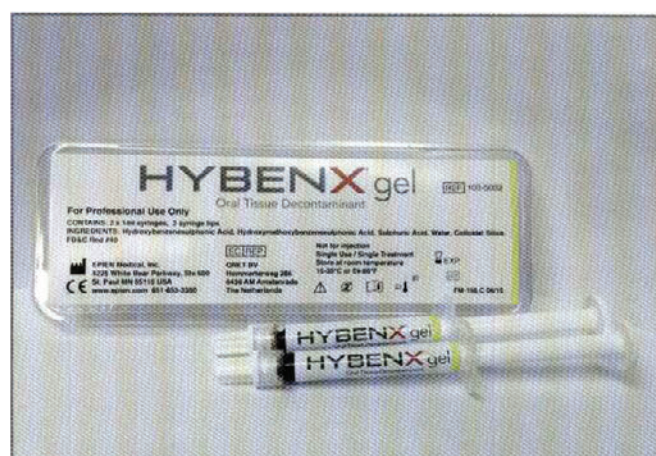
Bottle 2 ml. (Code 103-1002)



Capsules gel 0.3 ml. (Code 103-4000)



Blister 2 syringes liquid 1 ml. (Code 103-2001)



Blister 2 syringes gel 1 ml. (Code 103-5002)

**HYBENX** is a medical device certified CE and FDA

**PROFESSIONAL USE ONLY**

Read carefully instructions inside before use

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**HYBENX<sup>®</sup>**  
Oral Tissue Decontaminant

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**HYBENX<sup>®</sup> ELIMINATES BACTERIAL BIOFILM**

A wide variety of human infections including caries and periodontitis are due to a particular biological structure called "biofilm".

Biofilm is a complex aggregation of microorganisms in a biological ecosystem that adheres to living and non-living surfaces.

The biofilm formation begins with the colonization of some bacteria on a surface like the dental one and, when the group of microbes reaches a sufficient concentration, it begins to secrete an extracellular polymeric substance consisting of polysaccharides, proteins and DNA.

This substance is associated with the water molecules of the surrounding environment and gives rise to an organic matrix the biofilm which has a remarkable adhesiveness to the colonized surface.

Biofilm is a self-regenerating ecosystem that contains internal canaliculi through which nutrients are spread and the metabolites and any exousins produced are conveyed to the outside.

In the biofilm some very active microbes metabolically, reproduce, exchange signals and information while others are in a phase of hibernation in which they become resistant to the action of antibacterial agents and antibiotics.

Furthermore, the structure of the biofilm with the presence of some microbes in a state of quiescence and therefore not sensitive to drugs, demonstrates that in some circumstances antibiotics have a reduced therapeutic effect favoring the onset of dangerous microbiotic resistances.

The presence of biofilm, strongly adherent, makes it difficult to completely remove it from the dental root in case of gingivitis or periodontitis, from the turns of a plant in case of peri-implantitis and from the infected channels in case of pulpitis.

Therefore HYBENX represents an extremely important therapeutic support in the treatment of these pathologies.



## What is HybenX and how it works ?

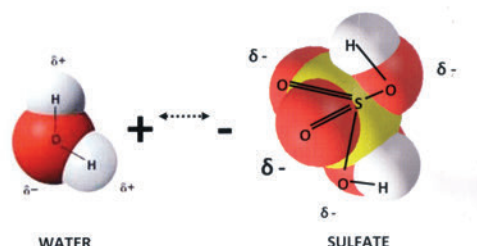
With the increasingly rapid evolution of knowledge, pharmacology has recently been shifting its objectives by focusing antimicrobial / antibacterial research towards the distribution of bacterial biofilms rather than action against microbes.

**HYBENX**® (oral Tissue Decontaminant EPIEN MEDICAL INC) is a medical device.

**HYBENX**® is a material in the form of a gel or a violet-colored liquid; It is able to denature the biofilm matrix through a powerful drying action.

The drying of the biofilm is due to the rapid subtraction of water from the matrix by sulphonic acids; consequently the matrix with the bacteria coagulates, contracts and detaches itself from the surfaces, like the dental ones, where it is strongly adherent. This chemical action facilitates the mechanical removal of tartar and bacterial plaque allowing the complete elimination of bacteria.

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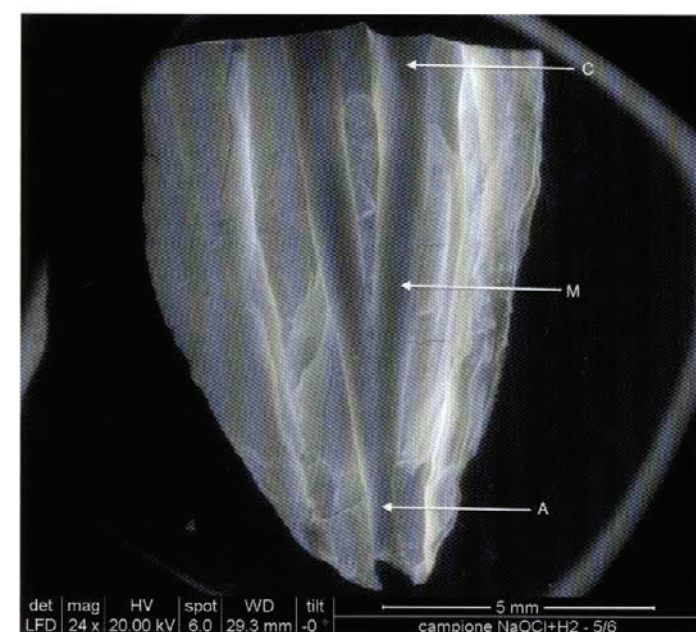


## Terapia Endodontica-Root Canal Cleanser

### ROOT CANAL CLEANSER

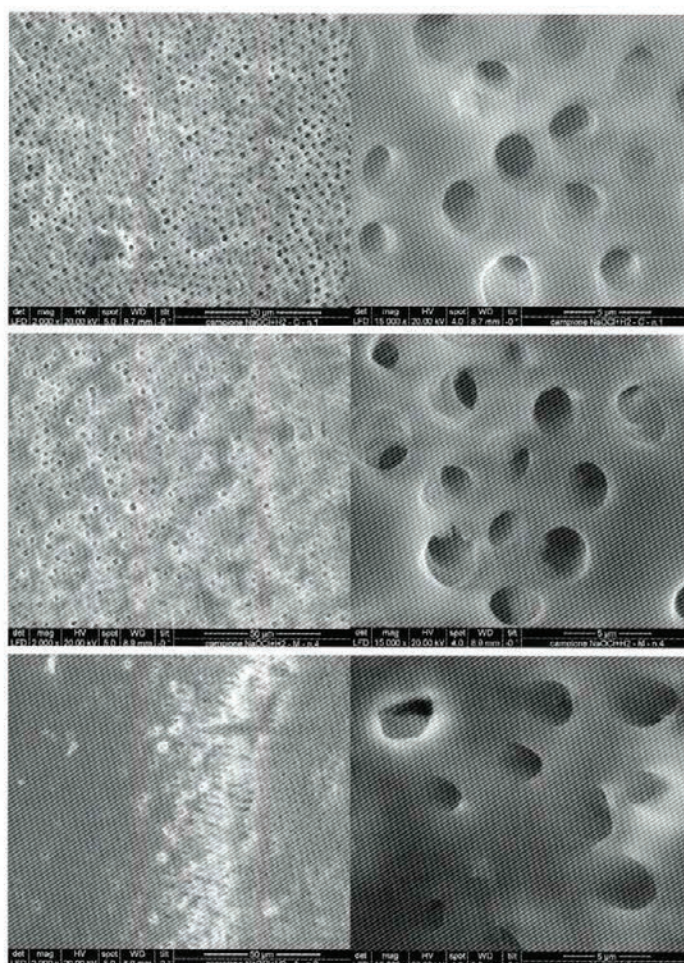
**HYBENX**® has the property of disrupting bacterial biofilms through Desiccation Shock Debridment Technology (DSD).

**HYBENX**® demonstrates excellent chelating capacities able to completely remove the smear-layer, in the whole surface of the root canal, significantly reducing the infection through an irrigation of just 2 minutes.



Sezione longitudinale dente preparato con strumenti Ni-Ti, NaOCl, poi irrigato per 2 minuti con Hybenx: l'analisi al MES a maggiore ingrandimento della superficie canale mette in evidenza la totale rimozione dello smear-layer a livello cervicale, medio e apicale.

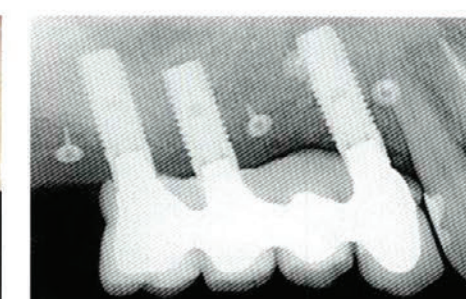
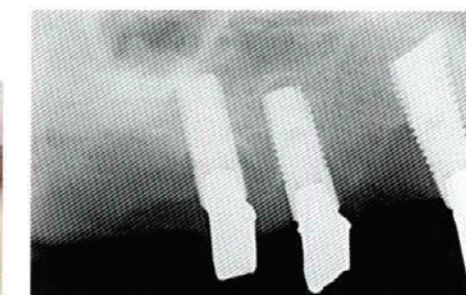
Courtesy of  
Dott. Riccardo Pace



## A SURGICAL TREATMENT OF A PERI-IMPLANTITIS

**HYBENX**

Courtesy of Dott. Mauro Merli



## NON-SURGICAL TREATMENT OF A PERIODONTAL POCKET

**HYBENX**



Courtesy of  
Prof. Giovan Paolo Pini Prato