PHOSPHACTEETH

REMINERALIZER

TOOTH REMINERALISING AND PROTECTIVE COMPLEX

by

Kalichem

a lamberti company

www.kalichem.it

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PHOSPHACTEETH REMINERALIZER

PHOSPHACTEETH Technology:

- Developed through **innovative scientific** equipment & knowledge of CA/P systems
- Result of the studies of **Bio-Active and Bio-Absorbable** compounds
- **New generation** released-control system generated in vivo after the contact with water

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CHEMICAL BACKGROUND

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PHOSPHACEETH forms in vivo the F-ACP System:

CITRATES coating

AMORPHOUS CALCIUM PHOSPHATE

functionalized with

FLUORIDE

CARBONATES

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Amorphous Calcium Phosphate

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Enamel and dentin
matrix precursor

ACP is converted in vivo
in enamel minerals

Structural base for the formation of:

- **New Enamel • Carbonate Apatite •**
- **• Fluoride Apatite •**

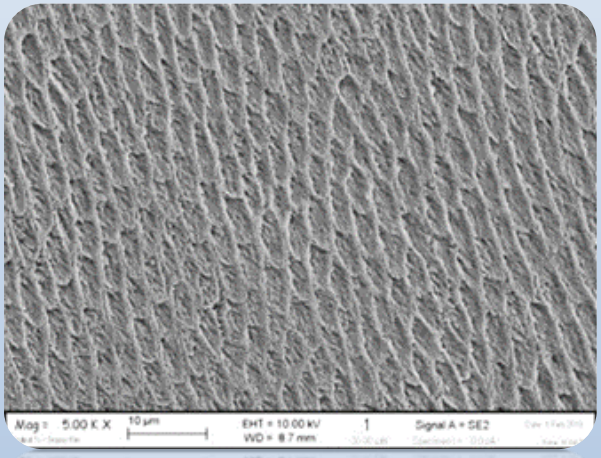
EX VIVO TESTS

2 – SEM IMAGES OF TOOTH TREATED WITH PAR TOOTHPASTE

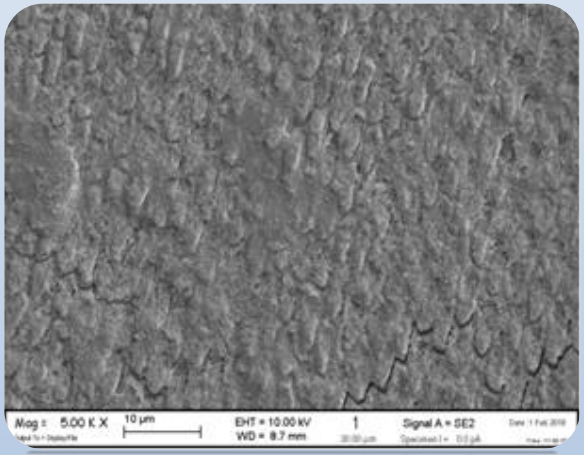
PHOSPHACTEETH REMINERALIZER

High Resolution Images- Magnification @ 5,00 K

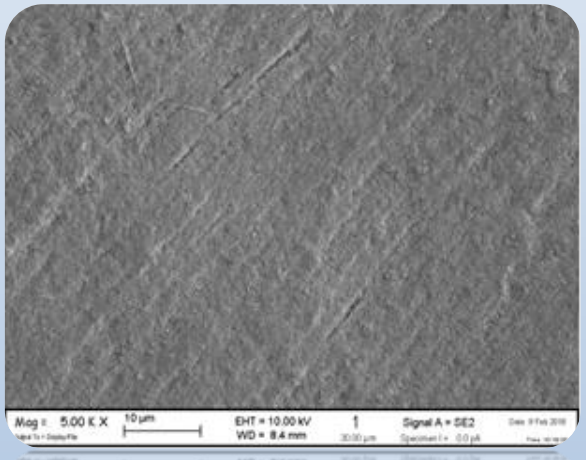
Demineralized tooth



PAR Toothpaste after 1 week



PAR Toothpaste after 2 weeks



The tooth treated with PAR shows significant improvement during each phase of the evaluation: after 5 days the surface scratches are filled with the onset of a irregular and hard surface in the prismatic area, after 10 days the entire surface looks much more compact, given the high deposition of crystal phase on it

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EX VIVO TESTS

2 – SEM IMAGES OF TOOTH TREATED WITH PAR TOOTHPASTE

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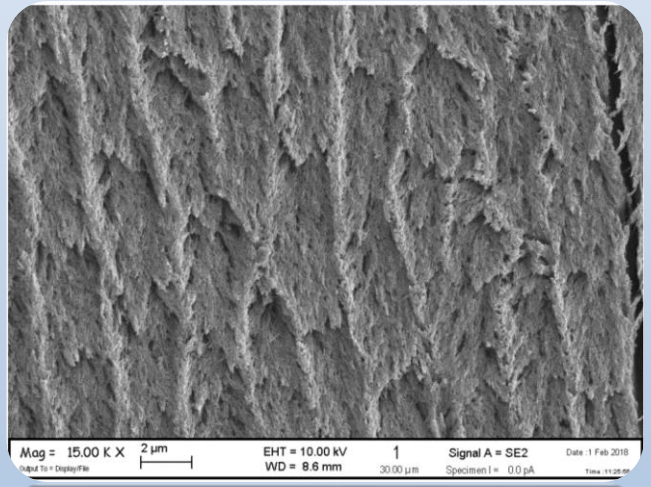
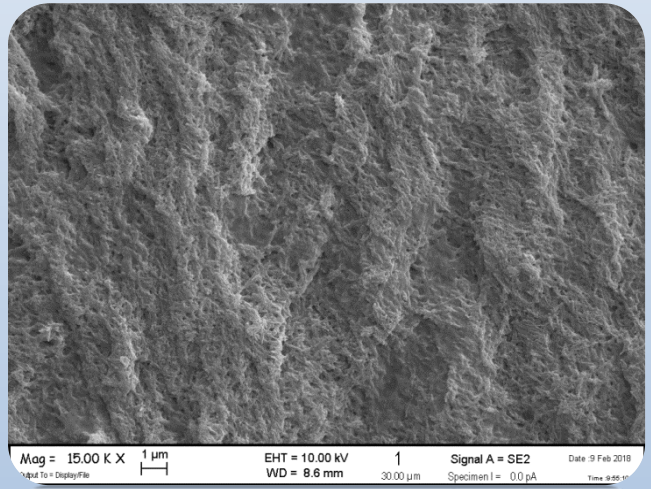
High Resolution Images- Magnification @ 15,00 K

Demineralized tooth



Tooth treated with PAR Toothpaste after 1 week



The tooth treated with PAR after 7 days shows filled surface scratches with the onset of a irregular and hard surface. The prisms of hydroxyapatite, clearly visible and highly exposed with the control treatment are covered and strenghtened after PAR treatment

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EX VIVO TESTS

3– SEM IMAGES OF TEETH TREATED WITH LEAVE ON GEL

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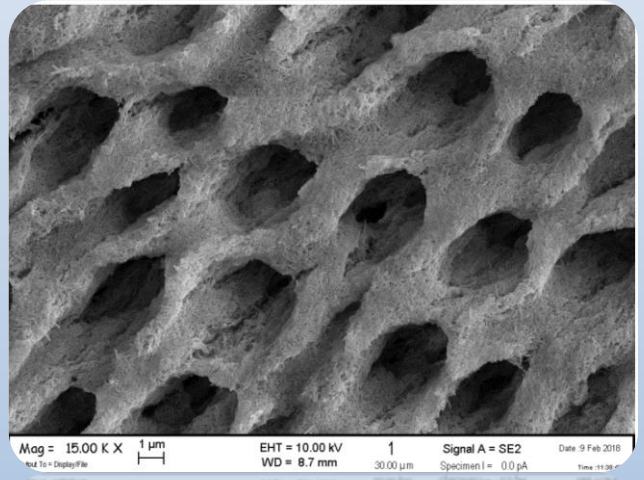
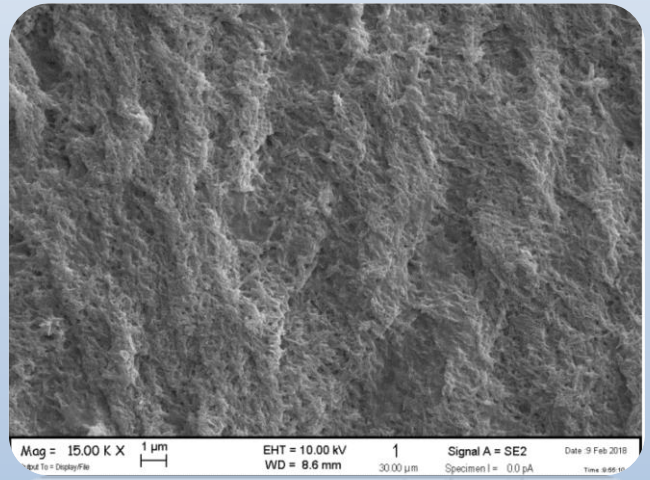
High Resolution Images- Magnification @ 15,00 K

Tooth treated for one week with control gel



Tooth treated for one with PAR gel



The tooth treated with PAR after 7 days shows filled surface scratches with the onset of a irregular and hard surface. The prisms of hydroxyapatite, clearly visible and highly exposed with the control treatment are covered a strenghtened after PAR treatment

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6B – FLUORIDE LONG TERM RELEASE ON THE TOOTH

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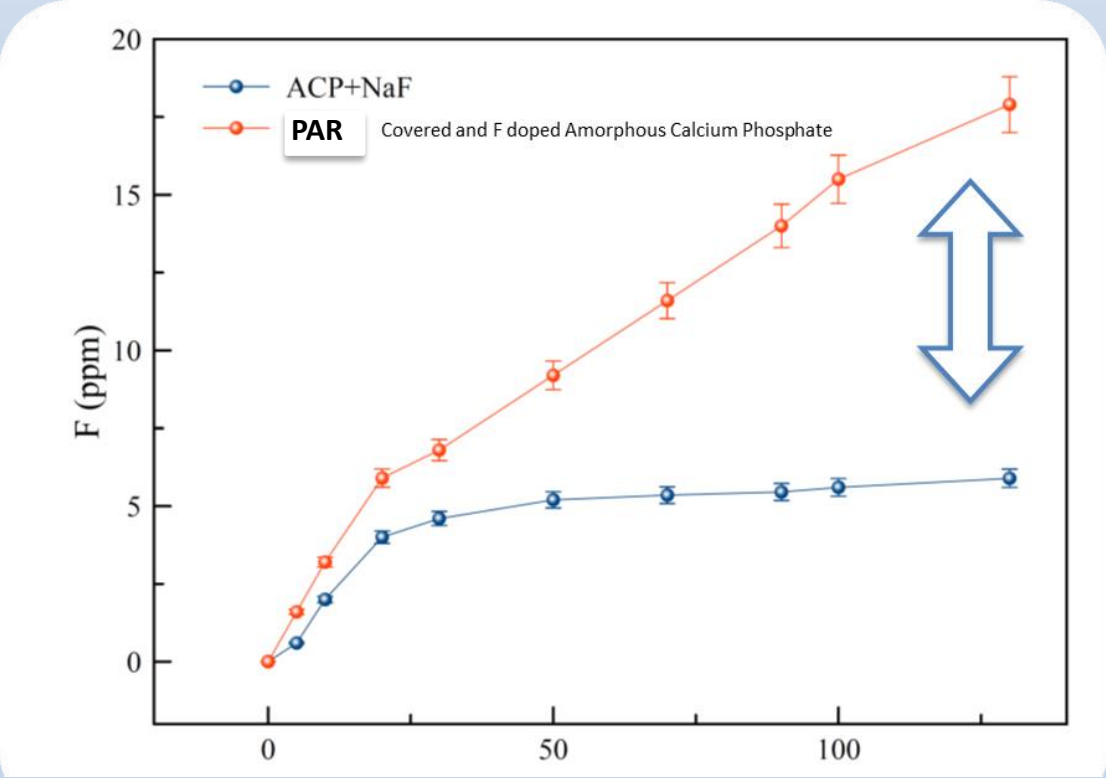
Fluoride release in artificial saliva

- PHOSPHACTEETH *@10% based toothpaste vs toothpaste based on standard ACP and Sodium Fluoride (1400 ppm)*

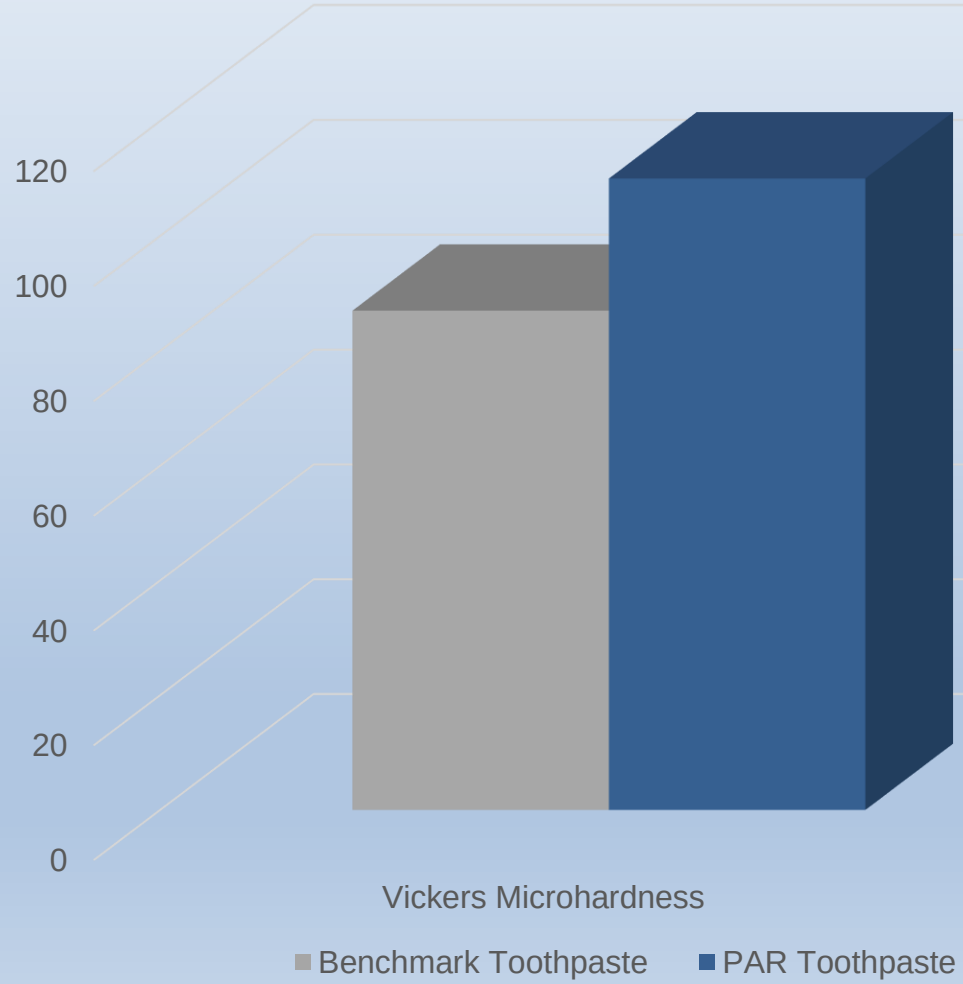


PAR releases Fluoride ions at a higher level both **immediately** and on **long term**

..it shows more affinity with the tooth surface and a better release kinetics than ACP+ Sodium Fluoride

EX VIVO TESTS

8 – VICKERS MICROHARDNESS



PAR toothpaste strenghtens more efficiently the enamel in Vickers Microhardness terms

PAR Paste:
110 hv
Benchmark:
87 hv

APPLICATIONS

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PAR IS SPECIFIC FOR ANHYDROUS FORMULATIONS

- Toothpaste
- Mouthwash
- Chewing Gum
- Gels
- Polimeric Matrix

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