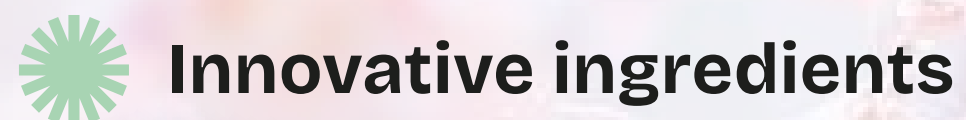




Biomimetic peptide that promotes tooth enamel remineralization and helps repair microdamage

SCH PeptCare™ 00104





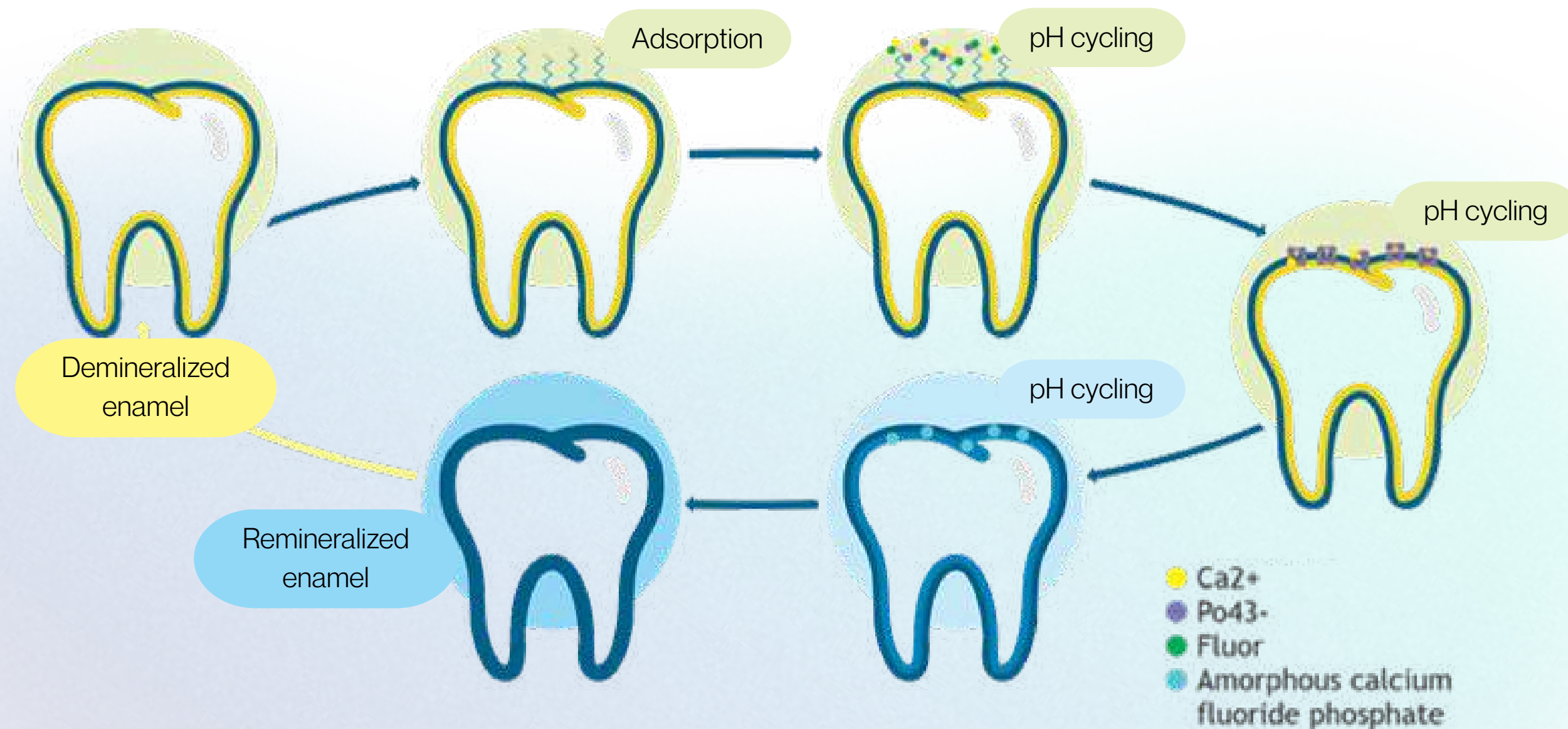
Main Function

SCH PeptCare™ OO104 is a biomimetic **amelogenin**-derived peptide that binds to the enamel surface, transiently stabilizes amorphous calcium phosphate (ACP), controls hydroxyapatite crystallization, and promotes the remineralization of caries lesions.

In the presence of fluoride, it shows a positive interaction with fluoride, making it a promising material to **improve the efficiency of fluoride-driven remineralization.**

Oligopeptide-104

This oral care peptide is able to promote the remineralization of enamel caries and modulate the nanocrystalline structure of calcium phosphate.

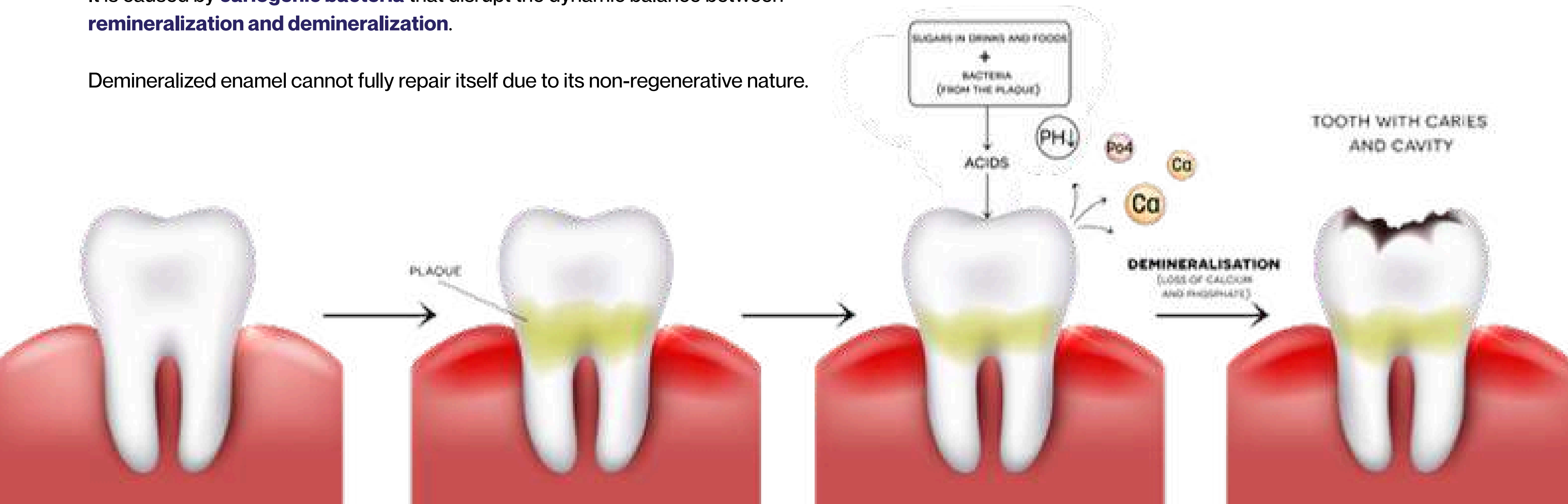


Dental caries: the challenge

Dental caries is one of the most common oral diseases and the most prevalent chronic disease worldwide.

It is caused by **cariogenic bacteria** that disrupt the dynamic balance between **remineralization and demineralization**.

Demineralized enamel cannot fully repair itself due to its non-regenerative nature.

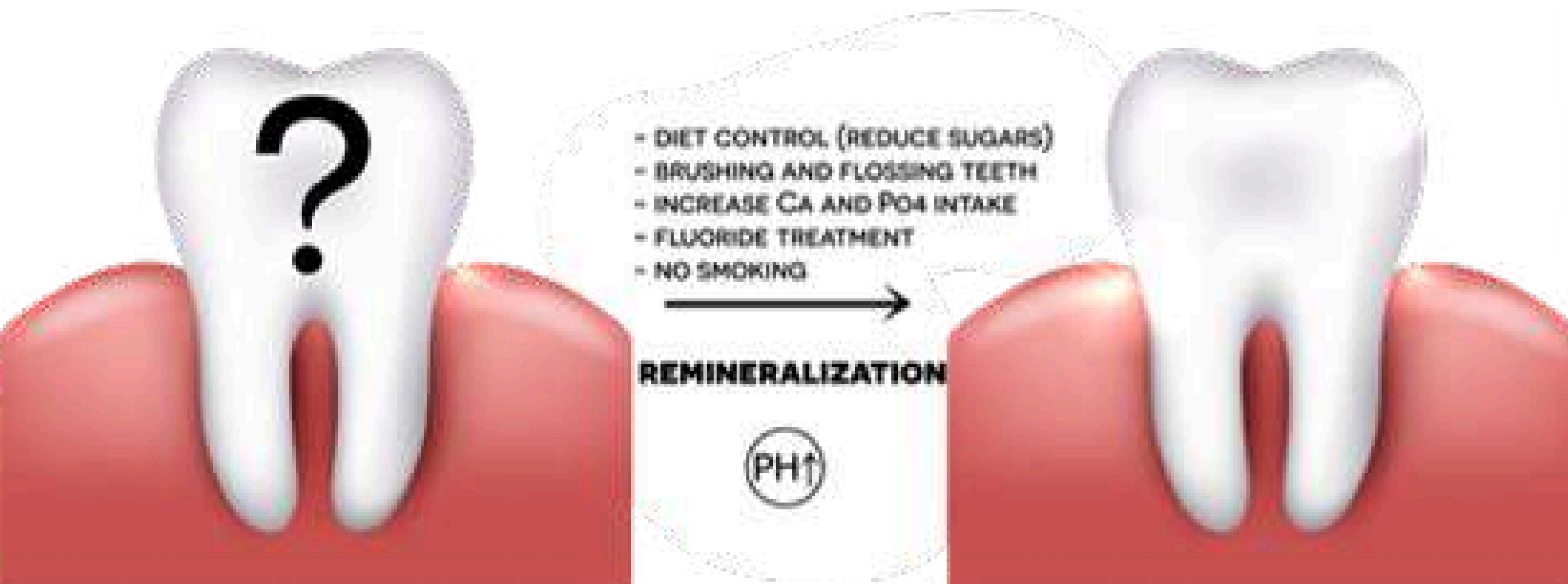


Enamel and biomimetic remineralization: the opportunity

Mature enamel is a highly mineralized tissue: **95–97%** inorganic material, composed of highly organized **hydroxyapatite** nanocrystals.

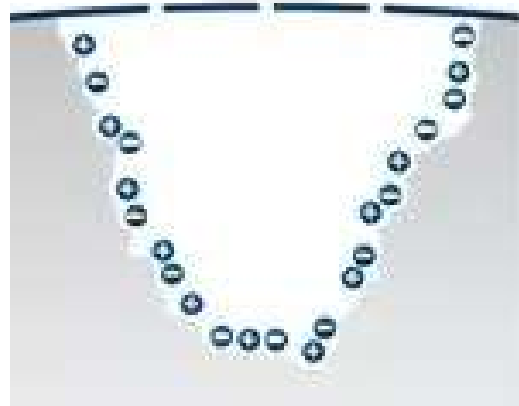
Biomimetic **remineralization** has become a relevant approach for caries treatment.

Enamel matrix proteins (EMPs) play a key role in biomineralization; **amelogenin** is one of the most important and can promote mineralization.



Mechanism of action: Guided Enamel Regeneration

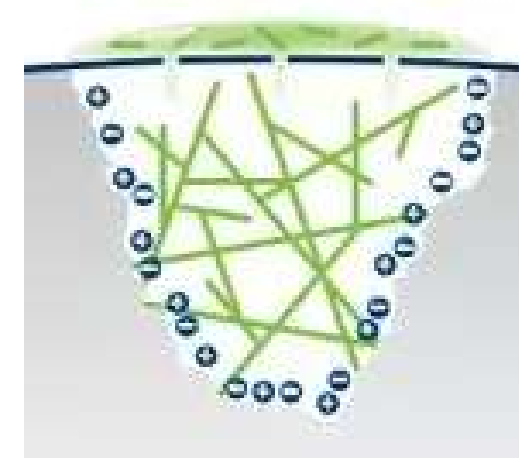
SCH PeptCare™ OO104 diffuses **into the depth of carious lesion** when applied.



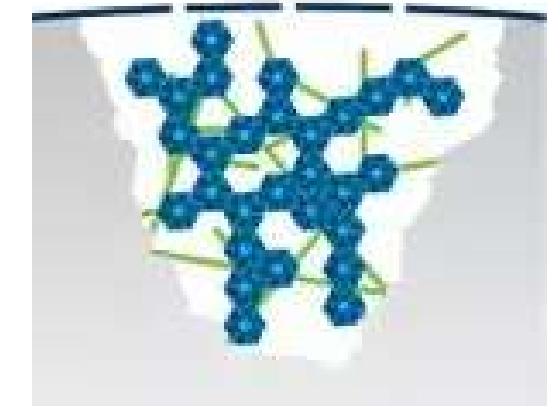
When it self-assembles within the carious lesion, it forms a **biomatrix** which **attracts calcium and phosphate ions** from the saliva.



New **hydroxyapatite crystals** form around the biomatrix lead the **regeneration** of the enamel.



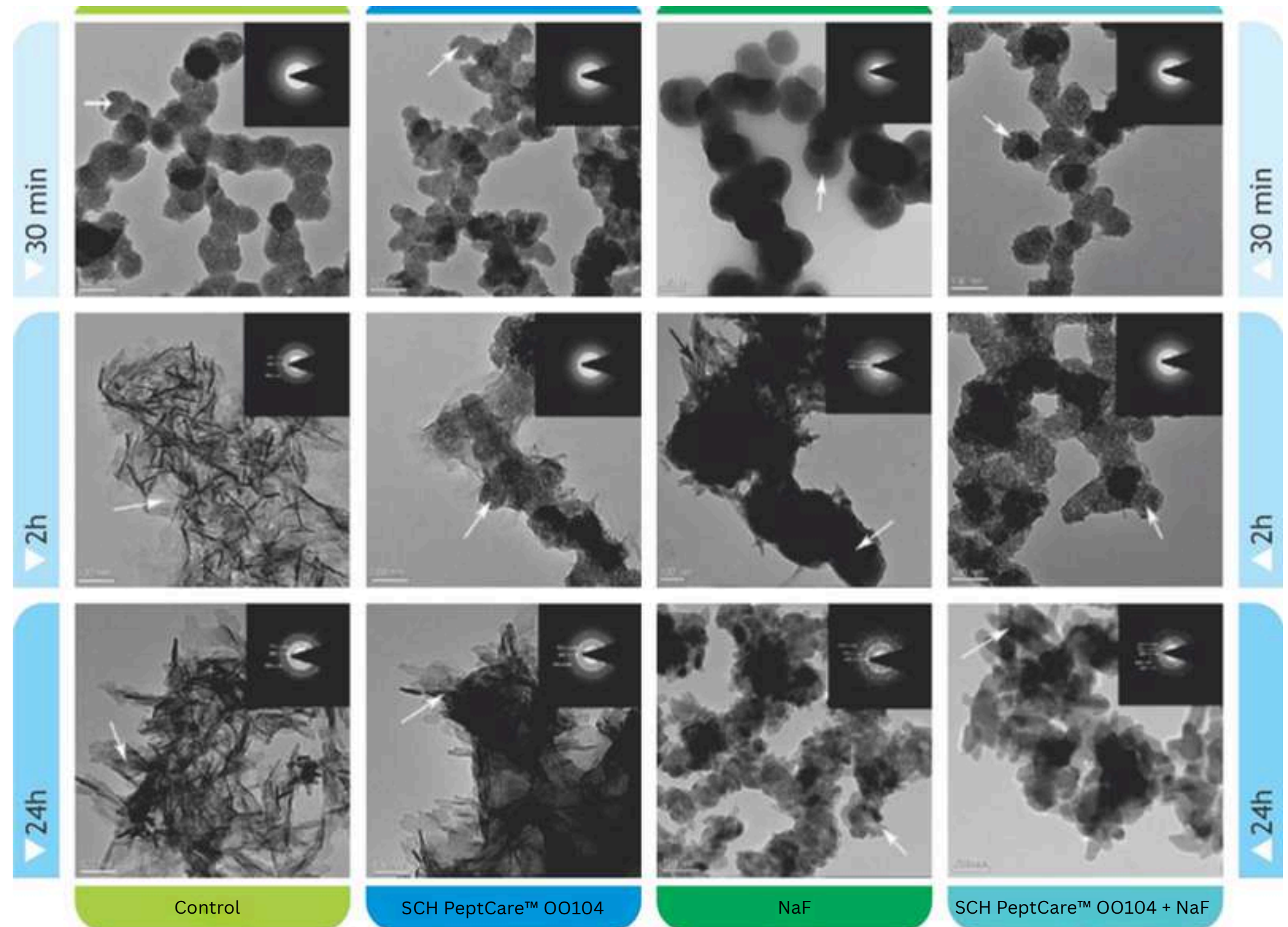
The caries stops progressing and the lesion regresses through **regeneration of hydroxyapatite** which continues over time with the continued use of the product.



Efficacy Studies

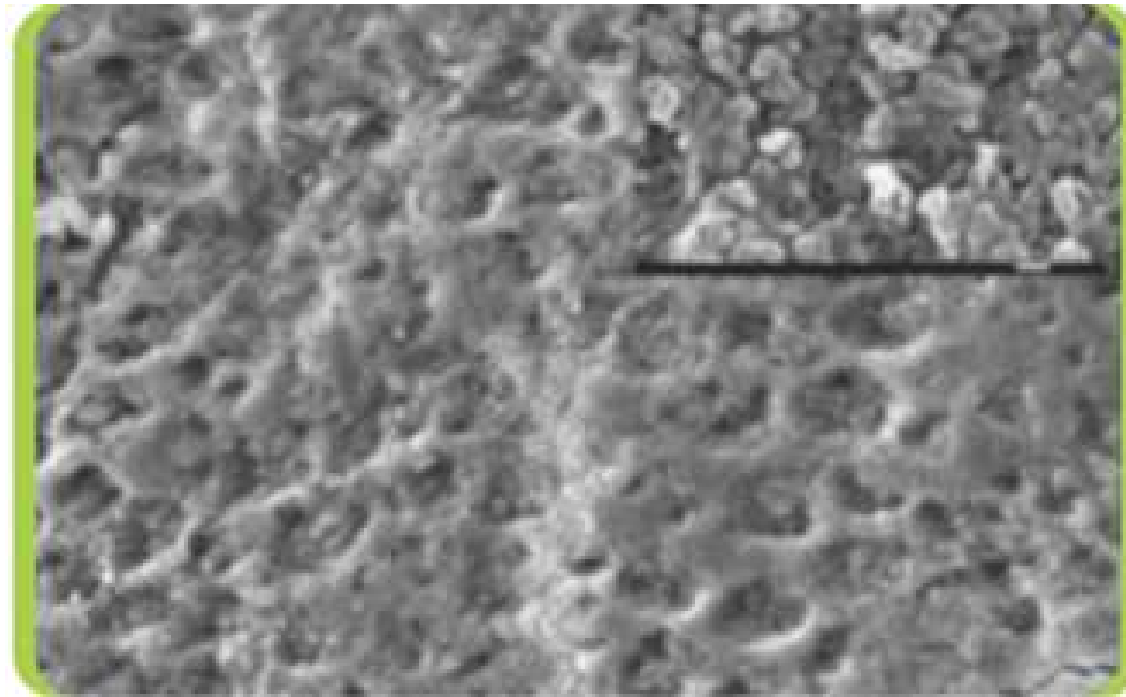
TEM images were obtained of the calcium phosphate minerals formed.

The effects of **SCH PeptCare™ OO104** and fluoride on the nucleation and growth of calcium phosphate were evaluated by TEM after 30 minutes, 2 hours, and 24 hours of incubation at 37°C.

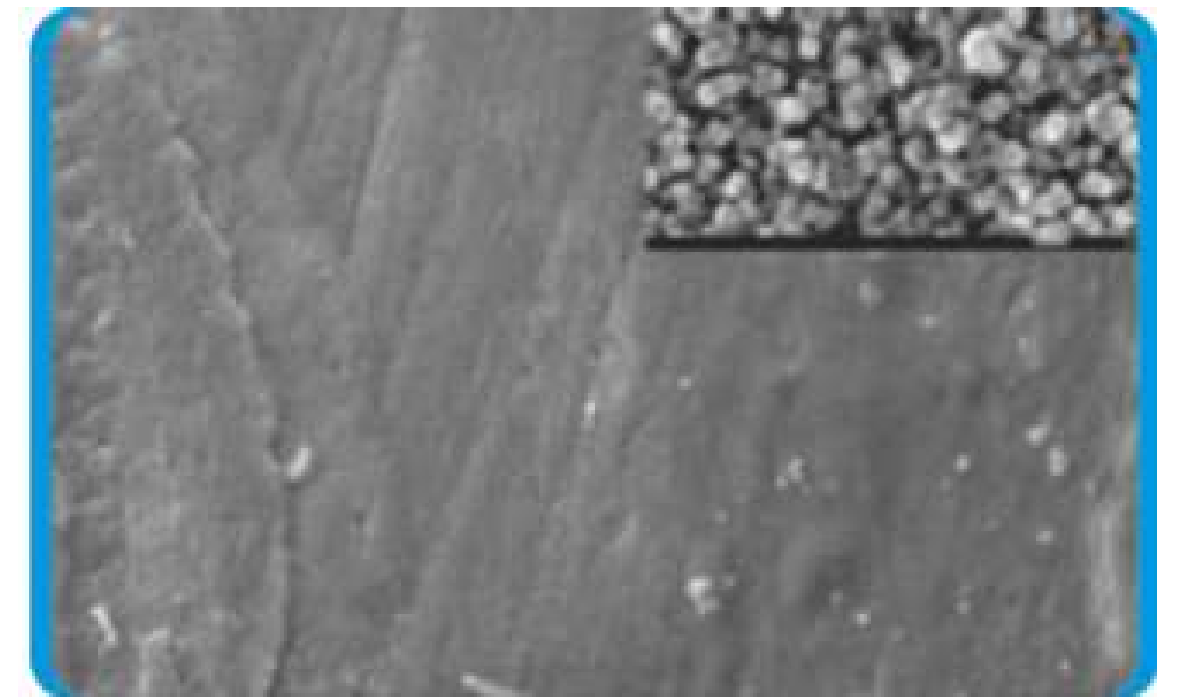
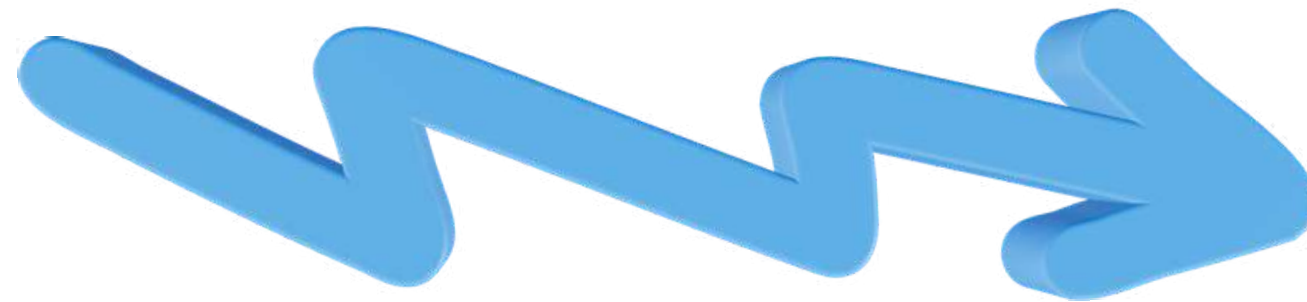


Efficacy Studies

Surface morphology of tooth enamel samples: after **remineralization**, numerous rod-like crystals were observed on the enamel surface by SEM, following a 12-day pH-cycling regimen.



Demineralized enamel



Demineralized enamel treated with
SCH PeptCare™ 00104

Technical specifications

Available in powder and solution form

Recommended dosage: 1 - 2% (1g/L of peptide in solution)

Regulatory status:

Europe → ALLOWED

China → NOT ALLOWED