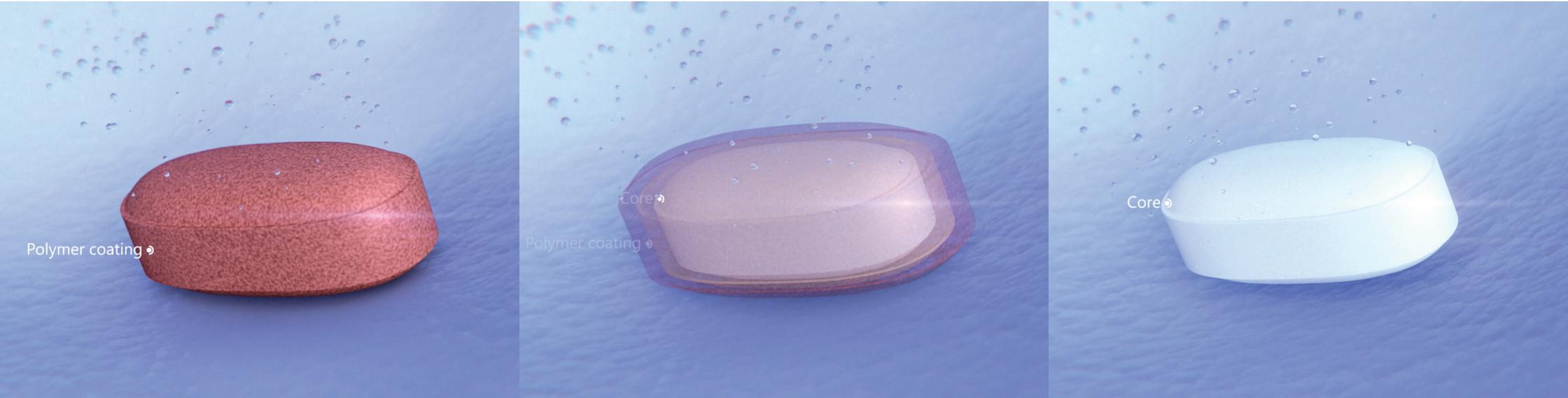




OPTICORE™

OPTimize COLonic RElease

OPTICORE™ is designed to allow for the complete availability of the active ingredient throughout the whole colon.



OPTICORE™ is an advanced enteric coating for solid dosage forms that is designed to allow for reliable delivery of the active ingredient to the desired region of the gut for effective treatment of intestinal conditions.

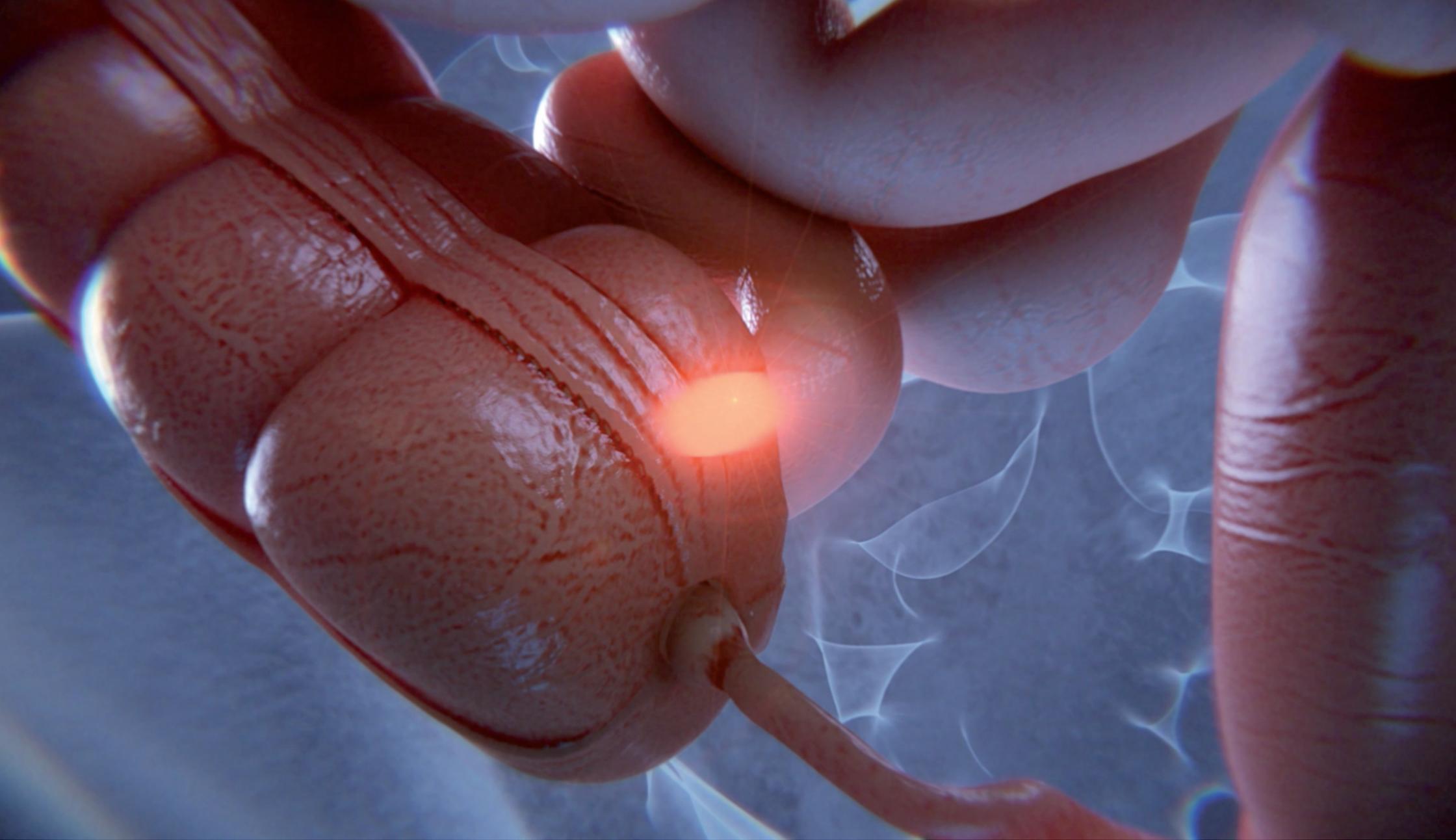


The core of the tablet contains the active ingredient. The challenge is to ensure the active ingredient is protected from the acidic environment of the stomach to prevent early release and systemic absorption.

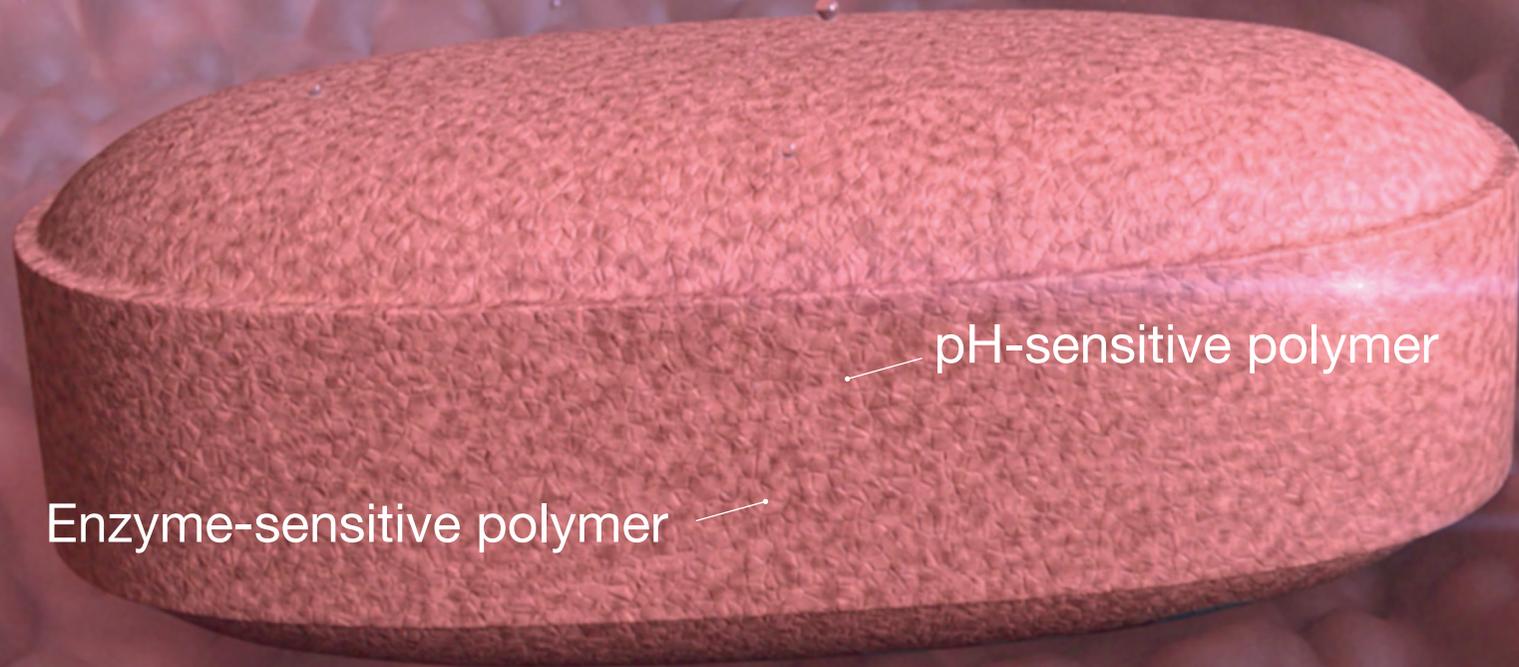
An anatomical illustration of the human gastrointestinal tract. The small intestine is shown in shades of green and yellow, with the ileum entering the cecum at the ileo-colonic junction. The large intestine is shown in a darker green. The background is a semi-transparent blue-tinted image of a human torso. Text is overlaid on the illustration pointing to the junction.

Ileo-colonic junction ◉
pH ~7

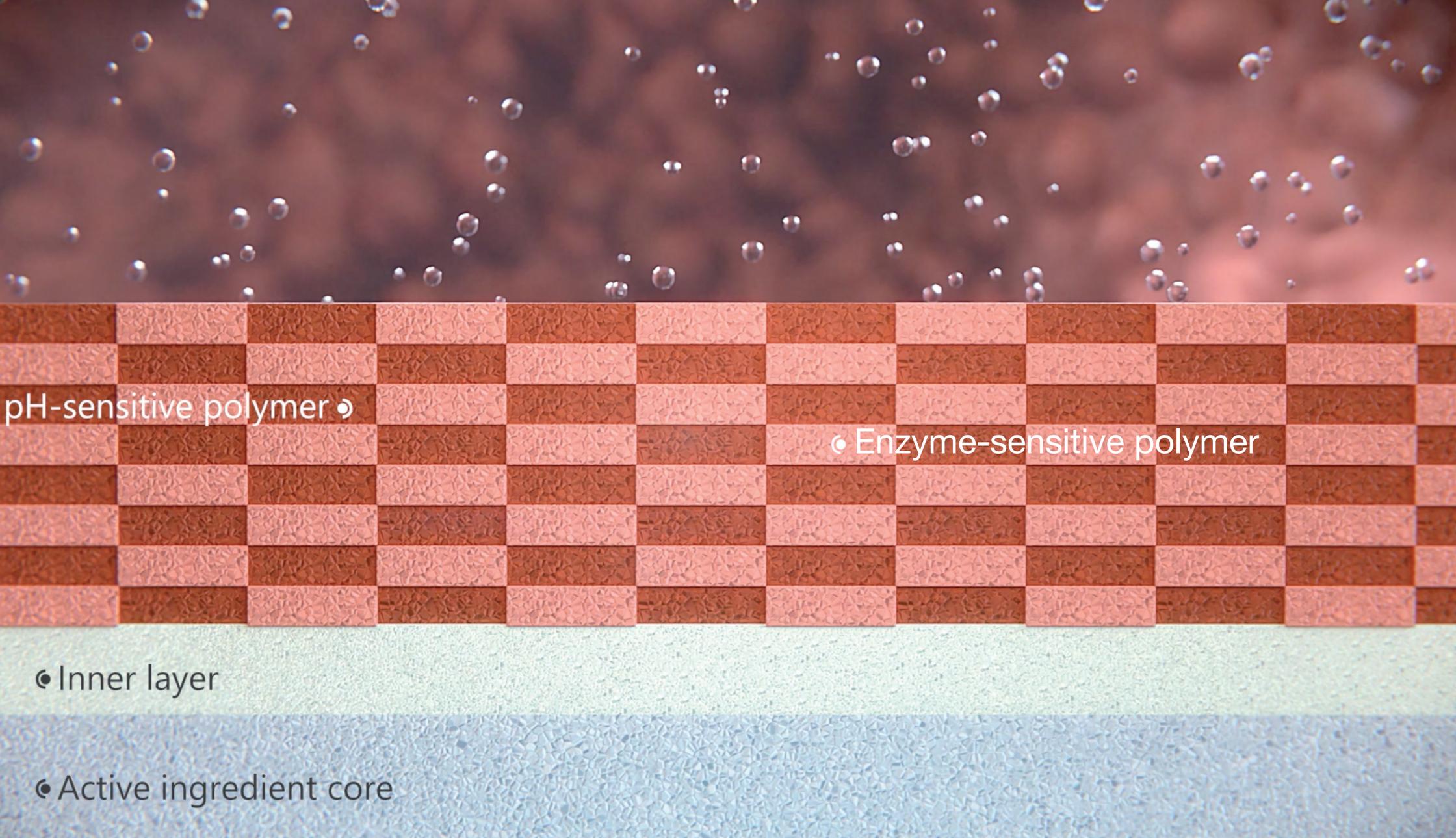
Along the gastrointestinal tract, pH increases until the ileo-colonic junction where it approaches pH 7.



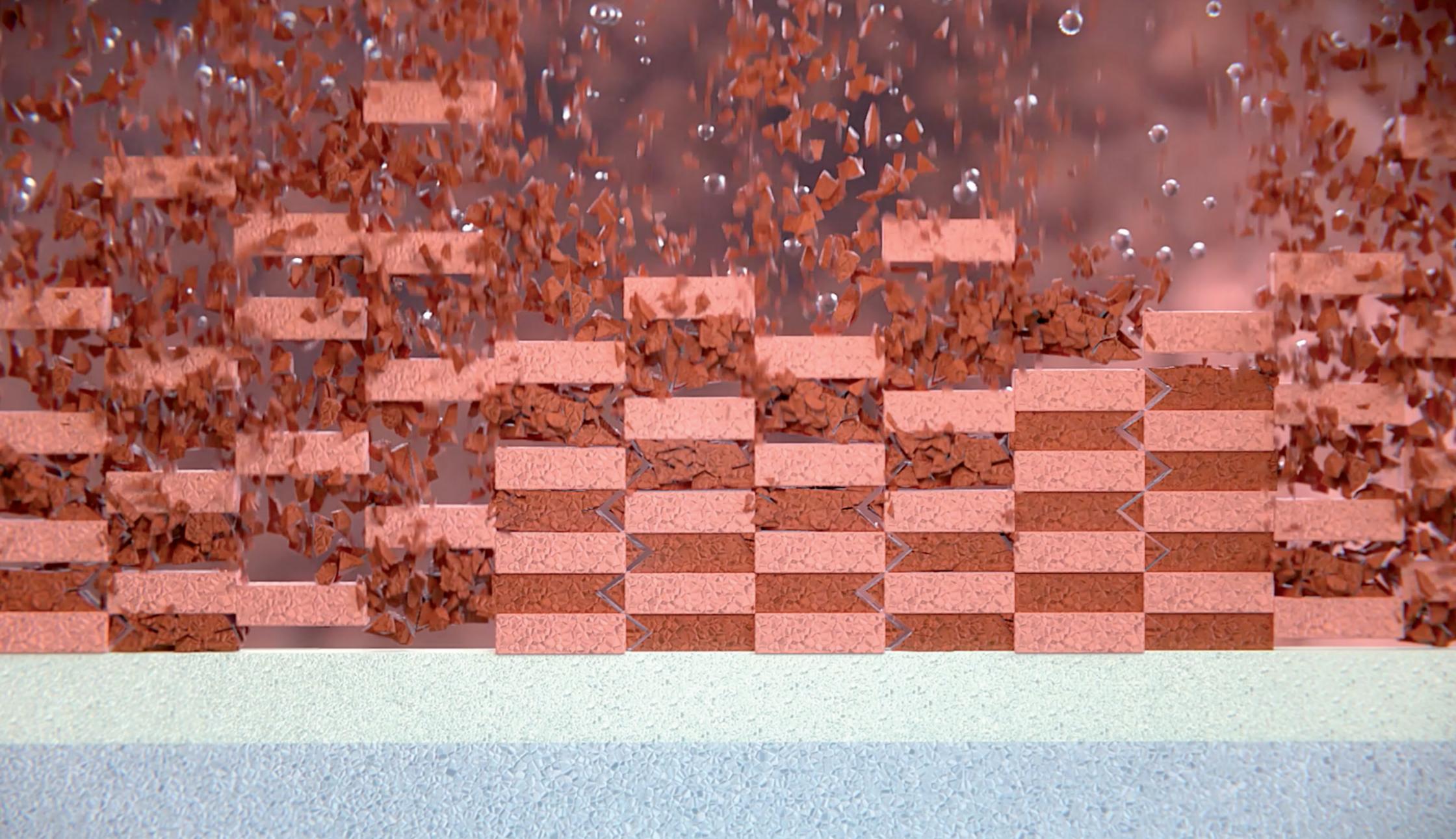
Tablet reaches the ileo-colonic junction.



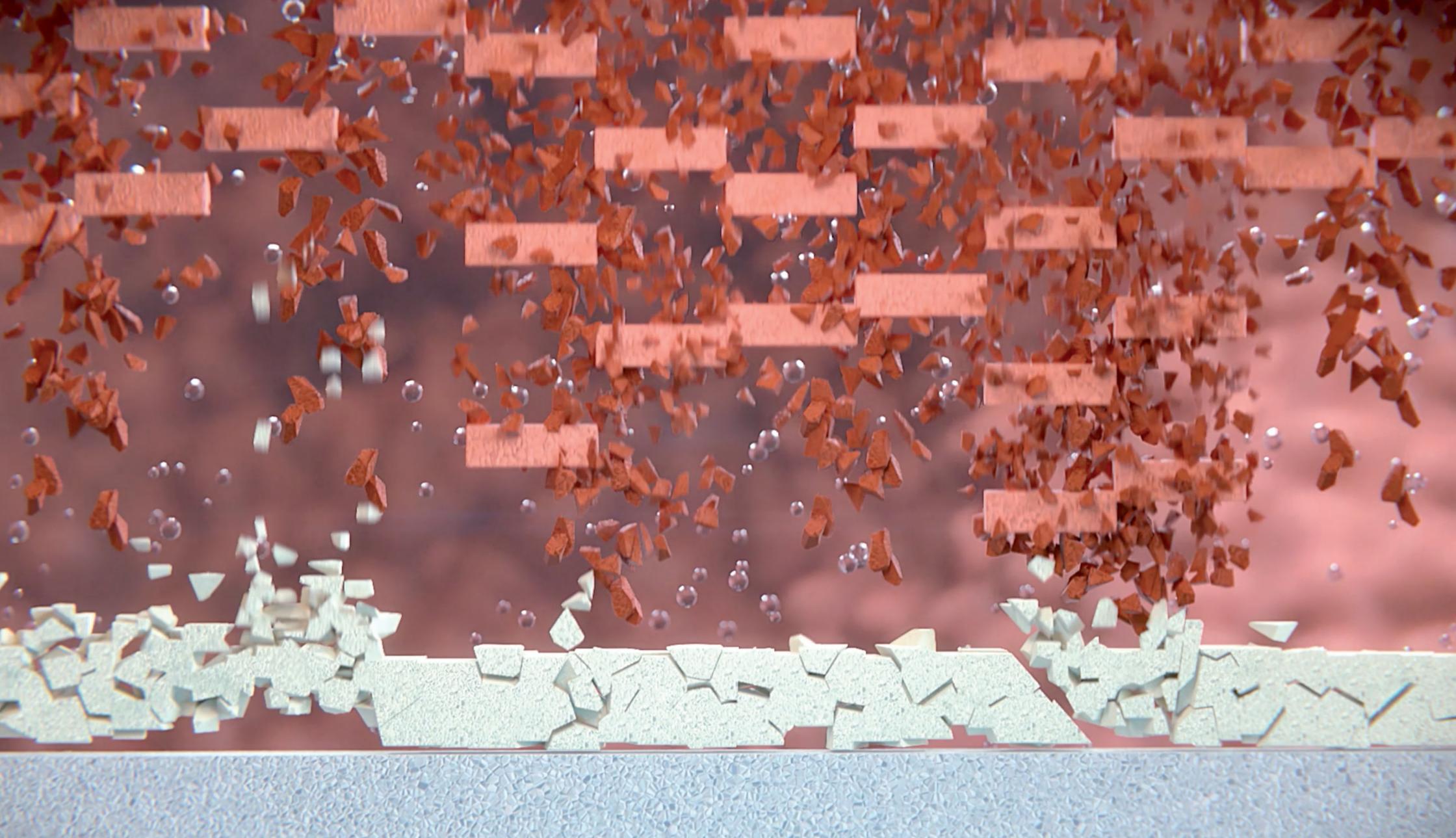
The outer OPTICORE™ layer comprises two trigger release mechanisms, a pH-sensitive polymer and an enzyme-sensitive polymer.



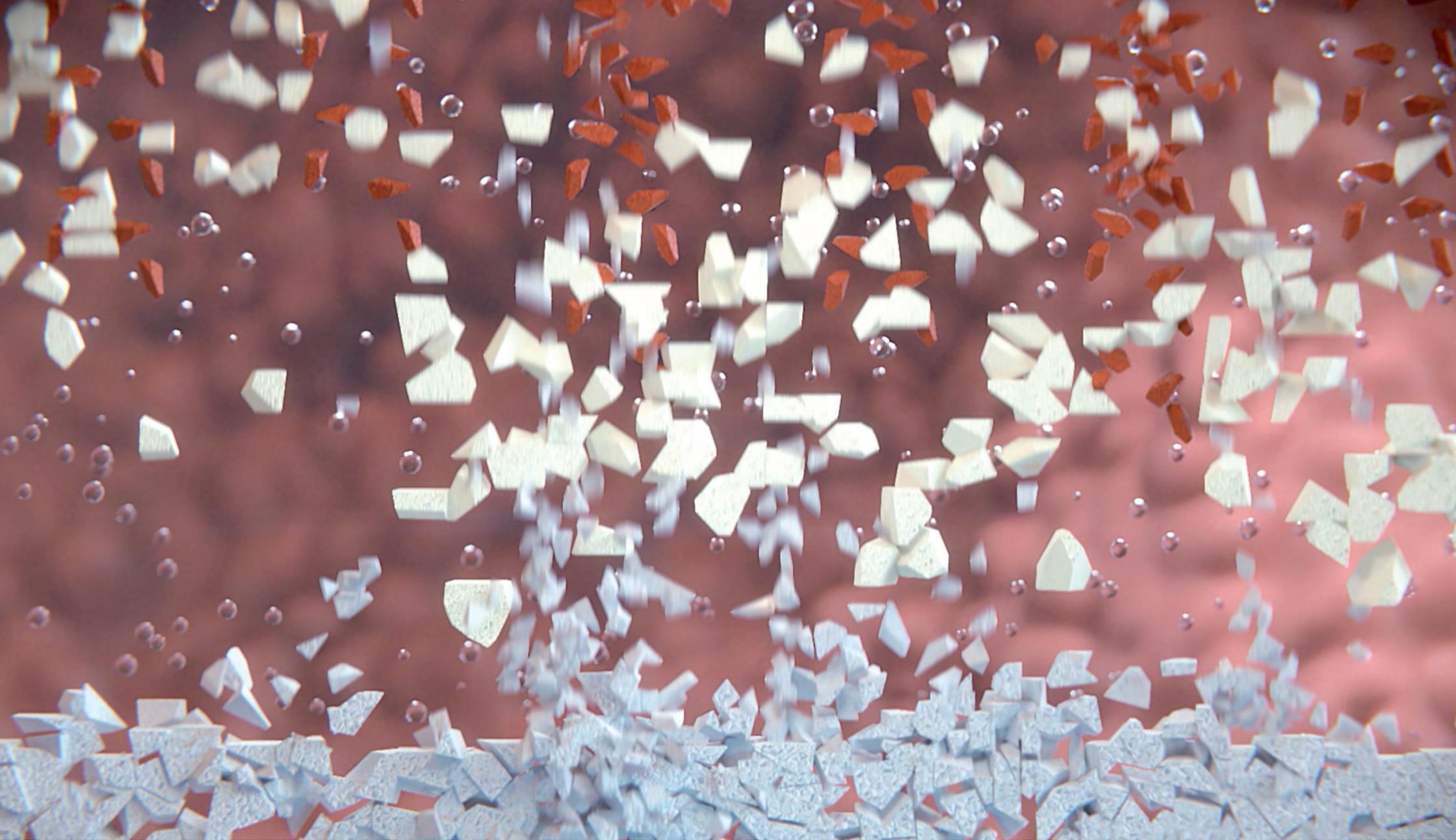
The pH sensitive film-forming polymer is designed to dissolve at a pH of 7 or above.



Fluid asymmetrically penetrates this pH sensitive polymer, creating cracks which widen as it dissolves.



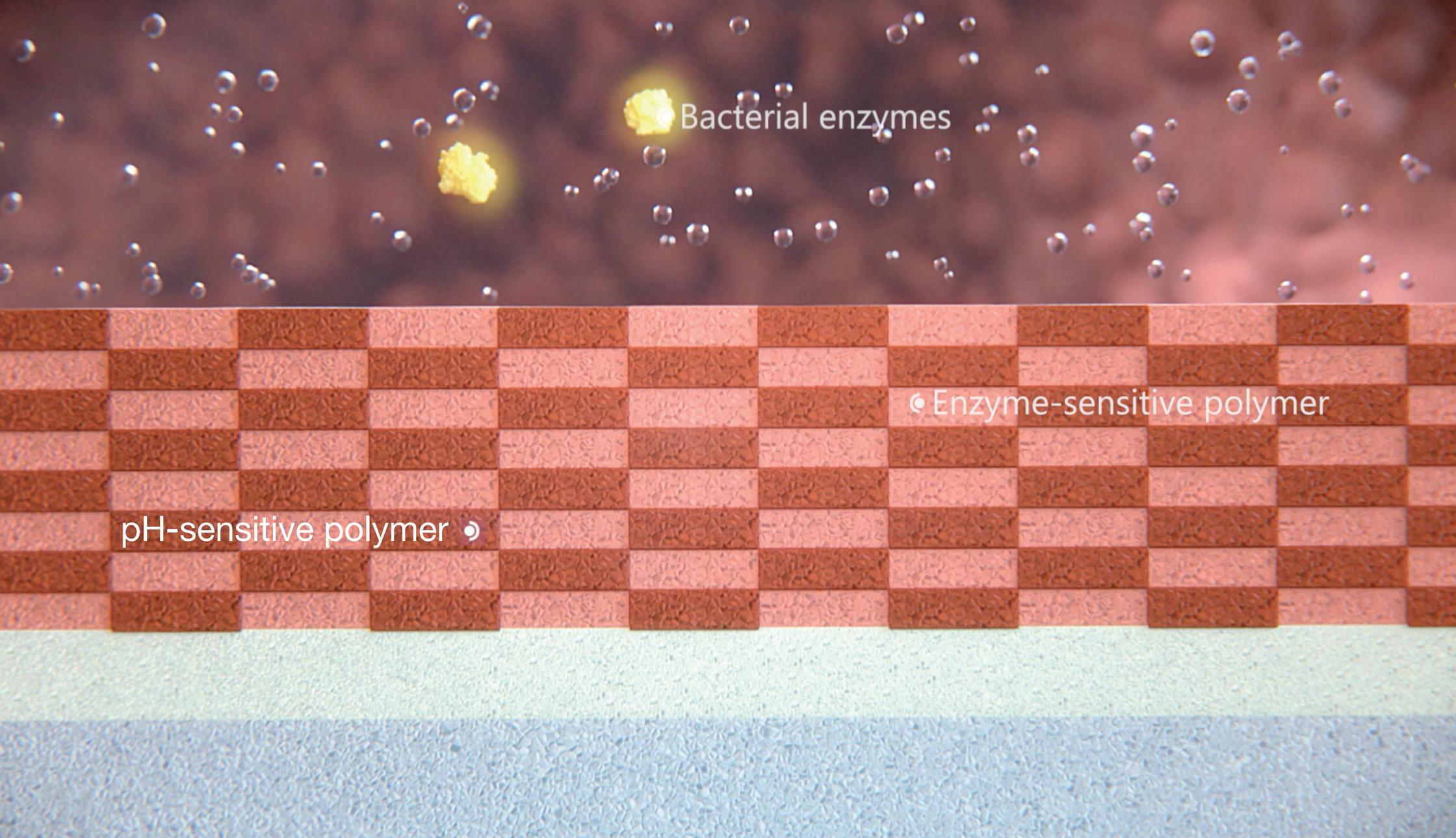
Once the pH-sensitive layer dissolves, fluid reaches the inner layer, the pH increases and the layer is then dissolved. This accelerates the dissolution of the outer layer.



The outer layer then collapses and accelerates release of the active ingredient.



Bacterial concentration also increases significantly along the gut.

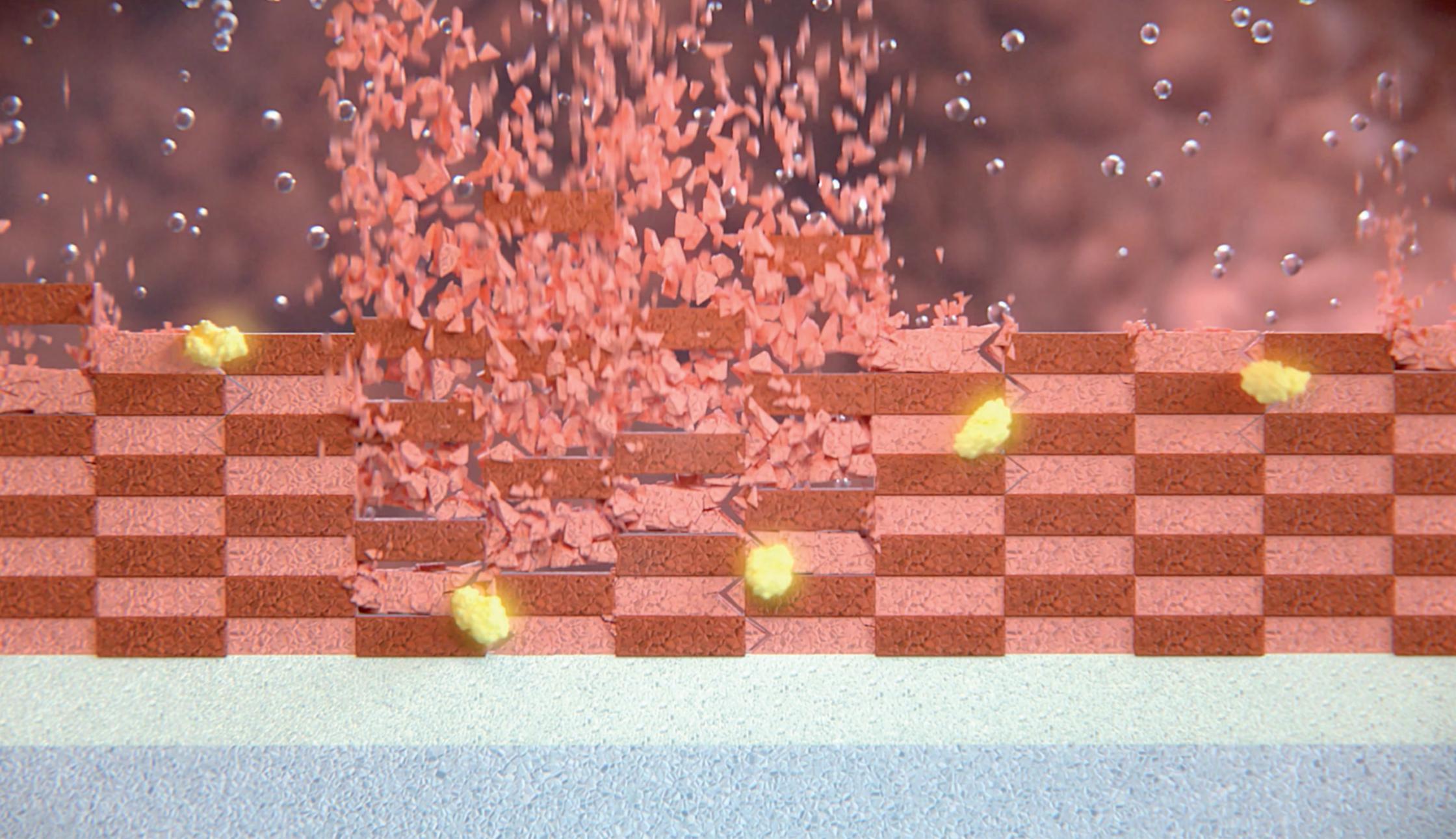


pH-sensitive polymer

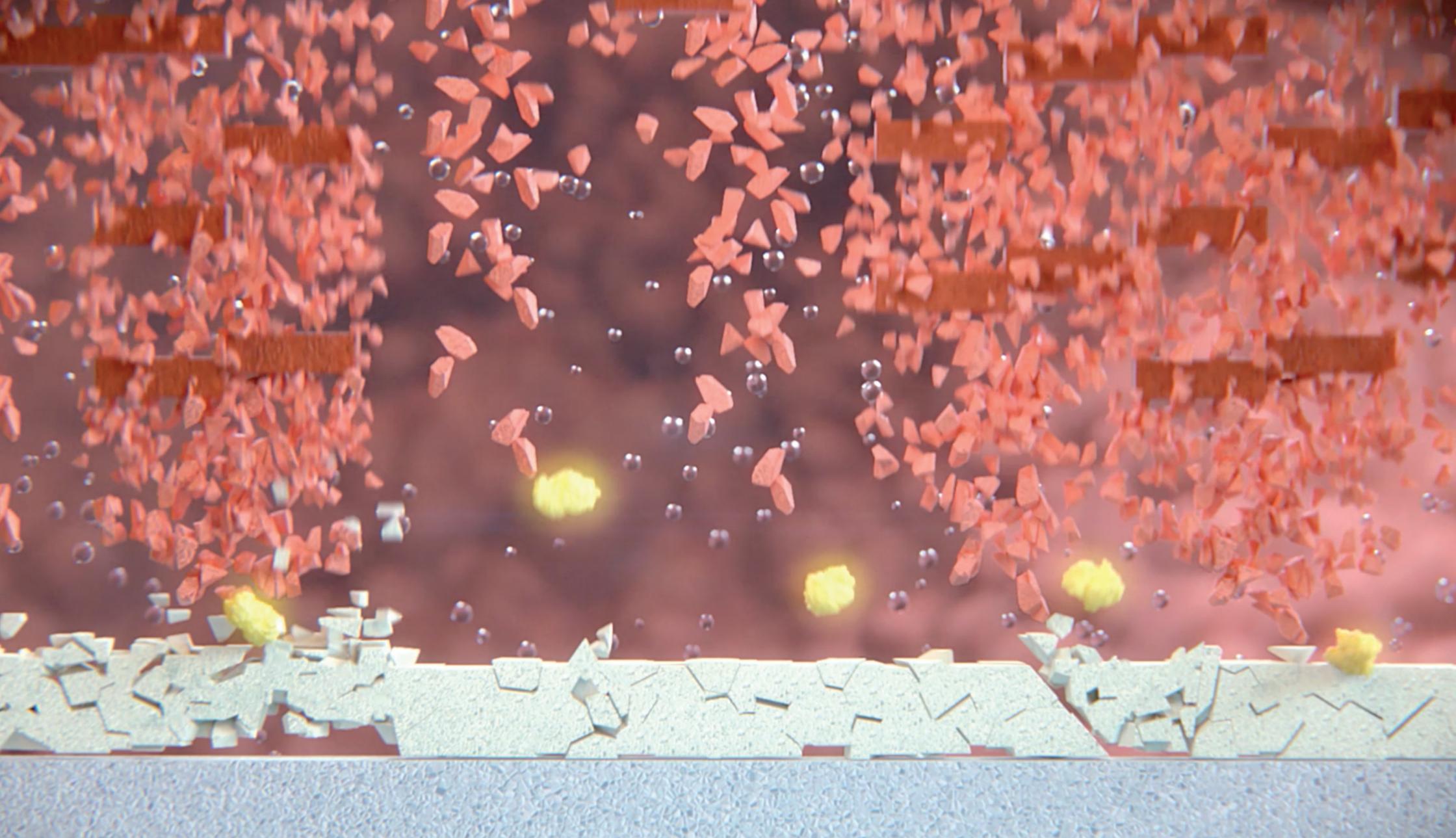
Bacterial enzymes

Enzyme-sensitive polymer

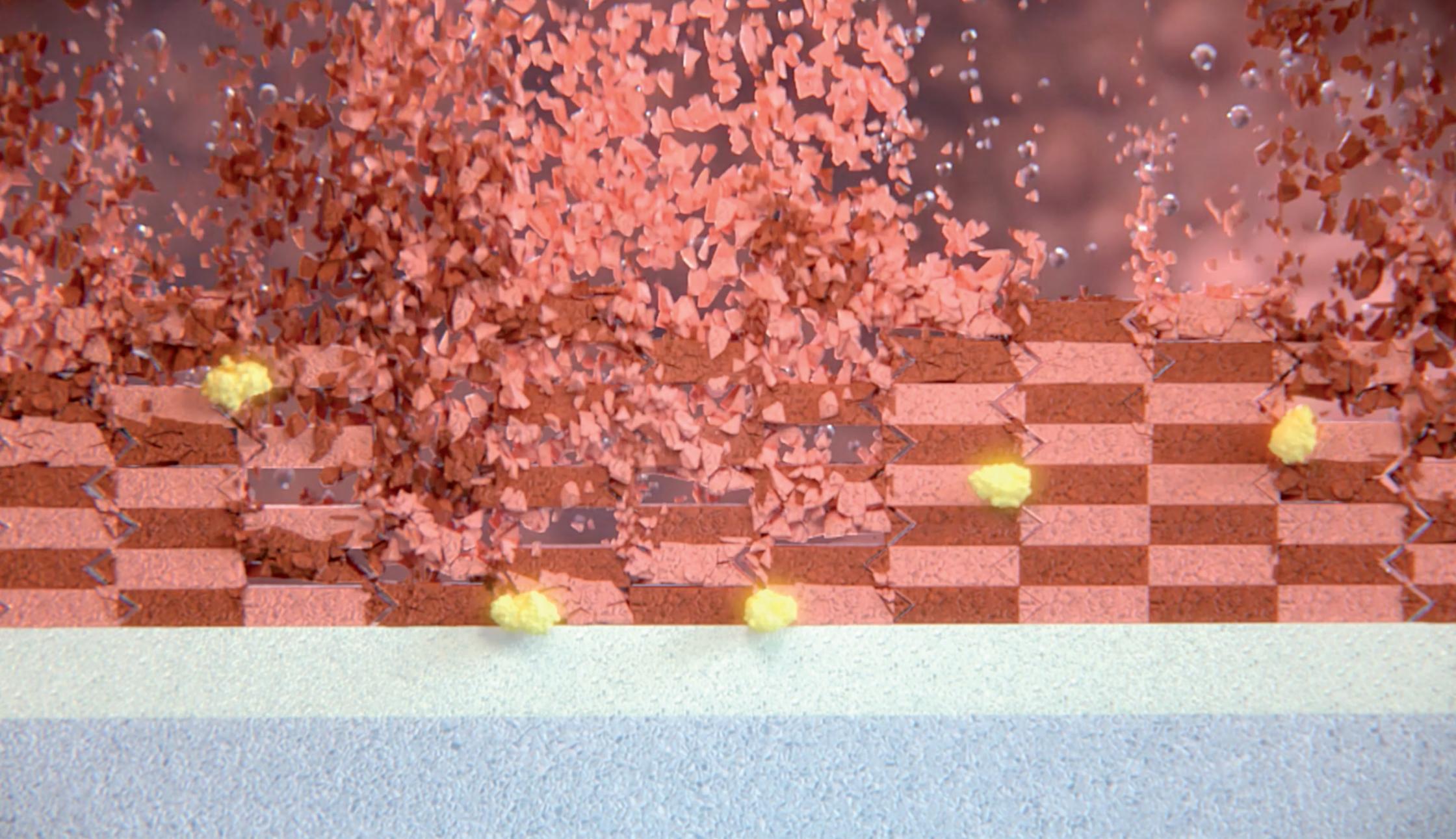
The second trigger release mechanism is an enzyme-sensitive polymer in the outer layer which is designed to dissolve by colonic bacterial enzymes.



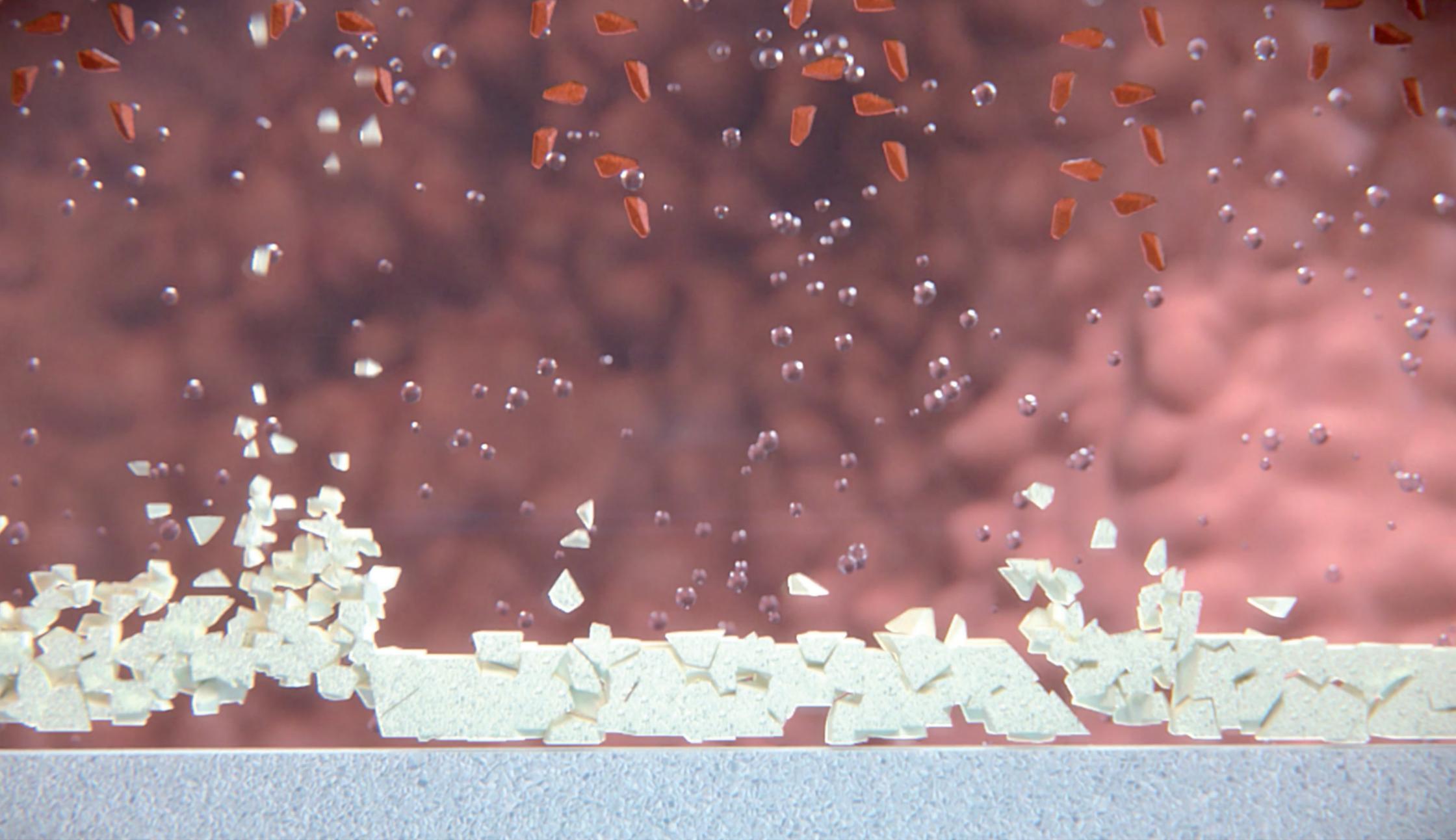
This is designed to also work as a backup system if the pH-sensitive polymer dissolution is compromised due to variations in patient gut pH.



Once the enzyme-sensitive layer dissolves, the fluid reaches the inner layer, the pH increases and this layer is then dissolved. This accelerates the dissolution of the outer layer.



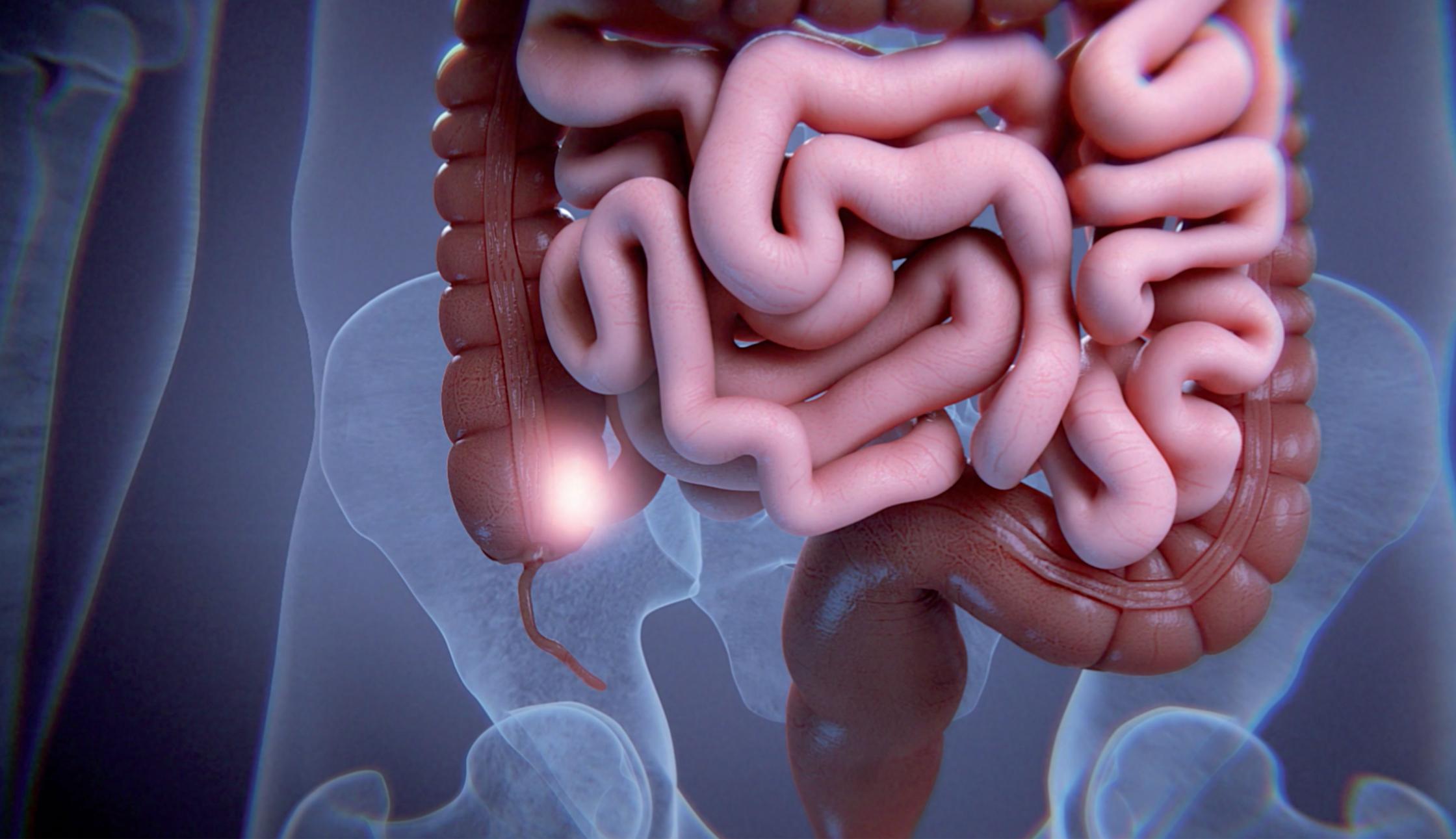
Ultimately, the combination of the two triggers is designed to work together to dissolve the polymers of the outer layer.



When fluid reaches the inner layer, the pH increases and this layer is then dissolved, which accelerates the dissolution of the outer layer.



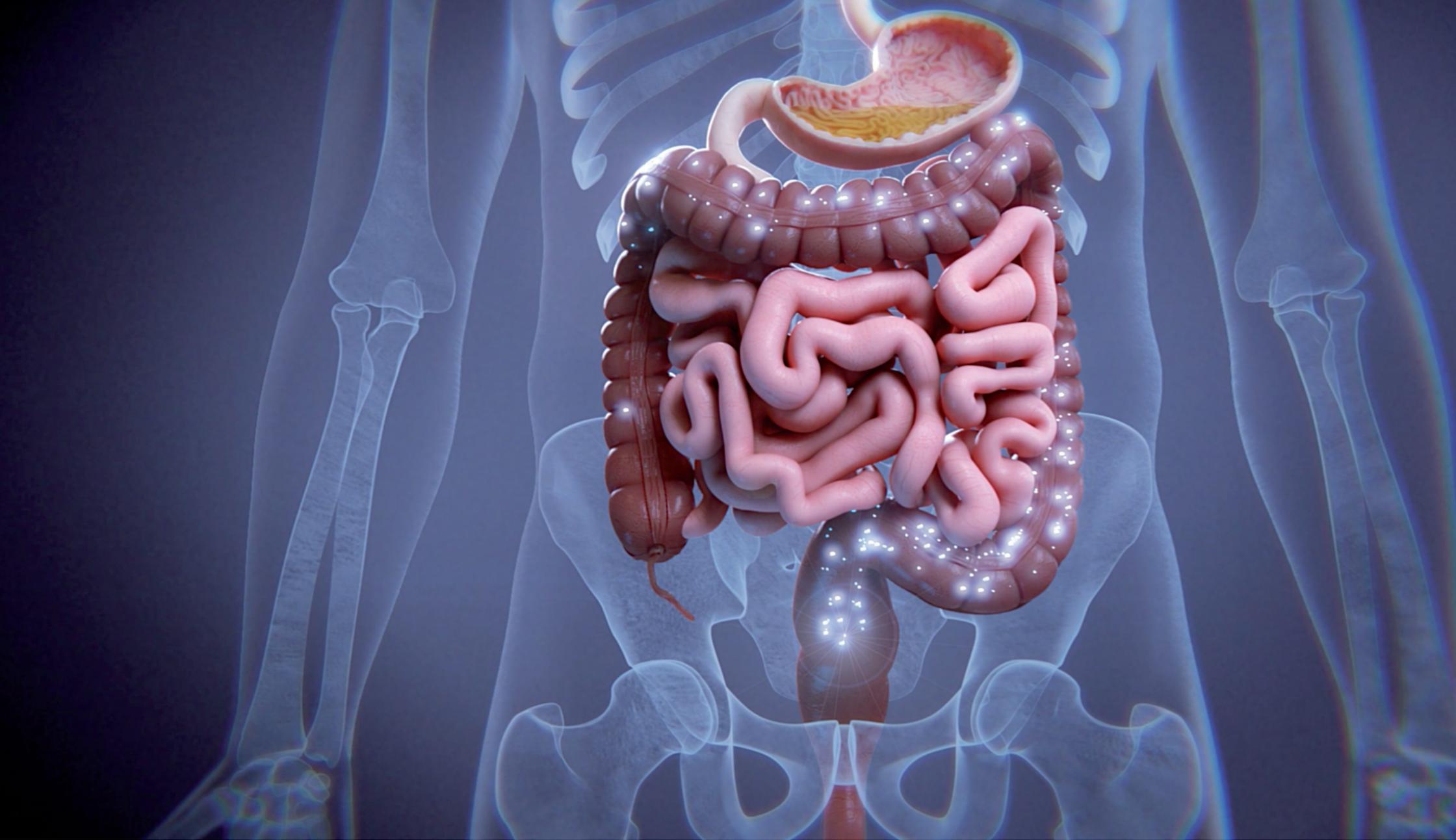
The outer layer then collapses to accelerate release of the active ingredient.



The combination of the two trigger release mechanisms in the outer layer and the accelerator effect of the inner layer is designed to open the tablet in the ileo-colonic region to make the active ingredient available for local action.



While larger particles could get trapped in stool, using OPTICORE™ technology, the active ingredient dissolves due to the high liquid content...



... and then it travels along the colon (like a cloud),
as shown by in vivo scintigraphy.



OPTICORE™ is designed to allow for the complete availability of the active ingredient throughout the whole colon.



ZERIA GROUP

TILLOTTS PHARMA

GI-health is our passion™

OPTICORE™ is designed to allow for the complete availability of the active ingredient throughout the whole colon.

With compliments from Tillotts Pharma

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Tillotts' OPTICORE™ has been developed based on the Phloral™ Technology.

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