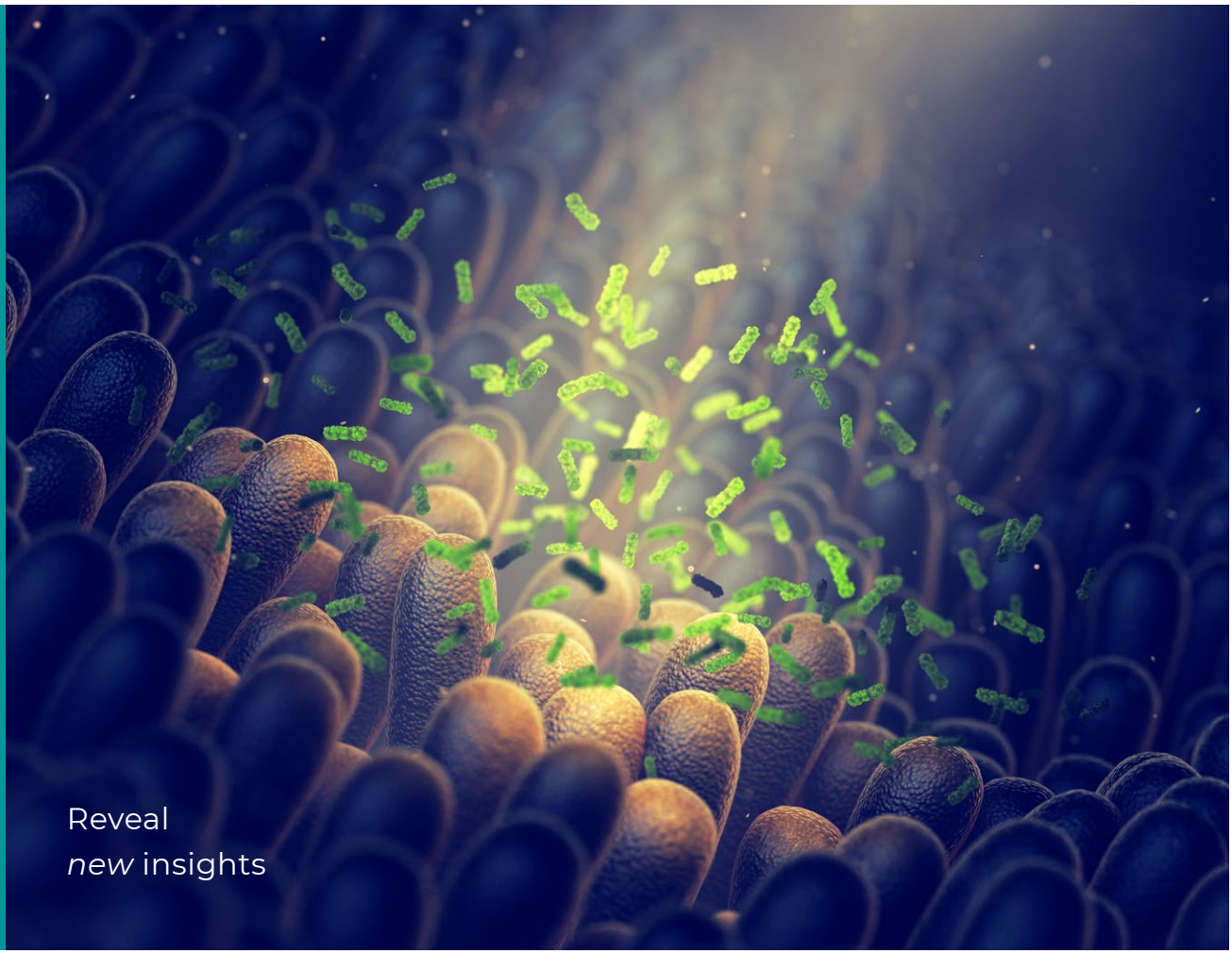
METABOLITE PRODUCTION

MICROBA

Metabolites *matter!*

Microbial metabolites interact with our immune, metabolic and nervous systems to influence our overall health. Some of these **metabolites promote good health** while others promote inflammation and disease.



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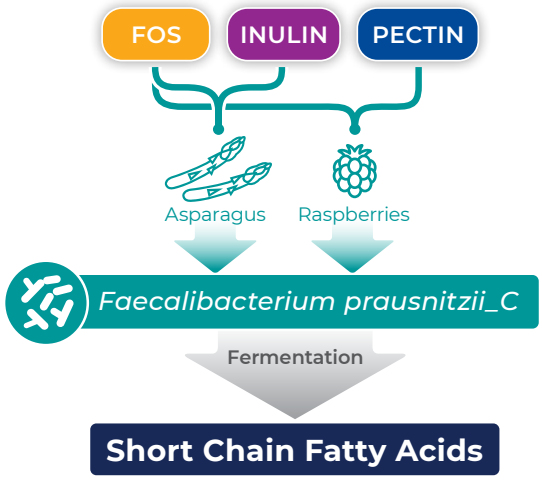
The mechanism of metabolites

Your gut bacteria can produce thousands of different substances, called metabolites, when they use different fuel sources for energy. These metabolites can interact with our immune, metabolic and nervous systems to influence our health. Some of these metabolites promote good health while others promote poor health. Understanding the potential of your gut microbiome to produce different metabolites can provide insight into how the gut microbiome may be contributing to your overall health.

"The way these microbial metabolites manage to affect such a diverse range of bodily functions is that many metabolites can be transported across the intestinal cell barrier and into the body's circulation. Additionally, it is likely some metabolites produced by gut bacteria can stimulate the vagus nerve directly to the brain and may influence mood."

Health-promoting metabolites



Butyrate is a key Short Chain Fatty Acid (SCFA) that our gut cells require for regular function. **70% of the energy used by our gut cells is obtained from butyrate.** Other than maintaining healthy gut function, butyrate assists with reducing inflammation and appetite regulation. The butyrate producing bacteria in the gut can ferment the fructooligosaccharide, resistant starch, inulin and pectin content of foods to produce this beneficial SCFA. **A well-known butyrate producing species found in the microbiome is Faecalibacterium prausnitzii_C**. Consuming foods like apples, bananas (slightly green), onion, garlic, barley and wholegrain wheat may help to increase the production of butyrate.

Hydrogen sulphide is a gas produced by some species of bacteria in the gut microbiome and at low levels, plays an important role in gut health. Primarily, it acts as an energy source for gut cells and helps to maintain healthy gut barrier function. However, at high levels studies have found that this gas can disrupt the gut mucus barrier and inhibit mitochondrial function. Research shows that increased consumption of foods high in the prebiotic fibres fructooligosaccharide and galactooligosaccharides can inhibit the production of hydrogen sulphide by gut bacteria.

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