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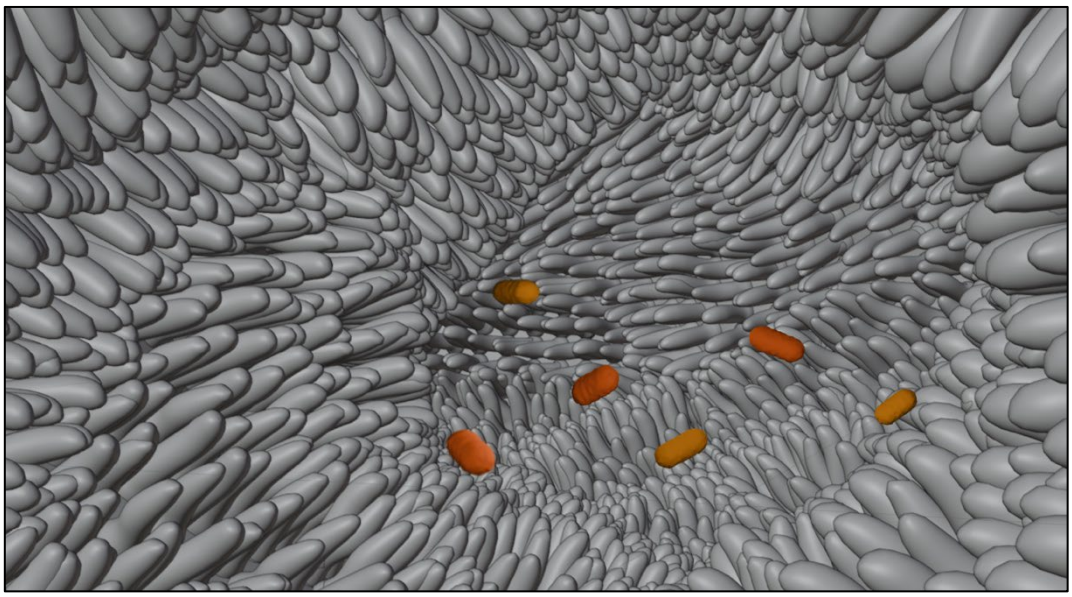
Licensing Opportunity

TTO – Technology Transfer Office

New biotherapeutic approach for non-infectious diseases



Lumen of the colon featuring therapeutic bacteria

Ref. Nr

6.2394

Keywords

Non-infectious diseases
Inflammatory disorders
Metabolic disorders
Gut microbiome homeostasis
Bile acids
7α-dehydroxylating bacteria
BSH-carrying bacteria

Intellectual Property

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Publications

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Description

Gut microbiome dysbiosis is a hallmark of many non-infectious diseases, significantly impacting host-microbe interactions and disease progression. One critical aspect affected is bile acid metabolism. This biotherapeutic product aims to restore bile acid homeostasis by targeting the gut microbiome. The approach involves preconditioning the gut microbiome with antibiotics, followed by administering microorganisms with bile acid 7α-dehydroxylation activity and bile salt hydrolase capacity.

Advantages

The key advantage of this approach lies in its targeted approach to restoring and maintaining bile acid homeostasis in the gut. By first using antibiotics to precondition the intestinal microbiome and then administering specific bacterial strains with bile salt hydrolase and bile acid 7α-dehydroxylation activities, this method offers a promising new therapeutic strategy targeting the bile acid pool for treating non-infectious diseases.

Applications

- Treatment of non-infectious inflammatory disorders including inflammatory bowel disease and ulcerative colitis.
- Treatment of metabolic disorders including obesity, metabolic dysfunction -associated fatty liver disease (MAFLD) and type-2 diabetes (T2D).