

Omega Muricholic Acid: A Novel PXR Ligand to Treat Hepato-Intestinal Diseases

The innovation offers a novel, murine-specific bile acid known as omega muricholic acid (wMCA). The technology has shown to be a promising new avenue for the clinical management of inflammatory bowel disease (IBD).

What is the Problem?

The unmet need in this context is the lack of understanding and identification of the active component in animal bile acids and its precise function, which have been used in traditional Asian medicine for centuries. In addition, there is a need for novel therapeutics for hepato-intestinal diseases, such as inflammatory bowel disease (IBD), that can effectively minimize intestinal inflammation and provide better clinical management options for patients.

What is the Solution?

The solution is the novel, murine-specific bile acid called omega muricholic acid (wMCA). Research has shown that wMCA can reduce intestinal inflammation in mice with IBD. Moreover, studies have identified interactions between microbes and wMCA production, which can serve as a foundation for developing new therapeutics for hepato-intestinal diseases. The applications of this technology include drug development for other diseases where wMCA is affected, studying bile acid impacts on the gut microbiome, and developing novel ways of modulating the microbiome-immune response to disease.

What is the Competitive Advantage?

The competitive advantage of the wMCA technology lies in its potential to offer more targeted and effective therapeutics for inflammatory bowel disease, based on the interactions between microbes and wMCA production. As the global IBD treatment market is expected to grow at a CAGR of 4.8% from 2021 to 2028, there is a significant opportunity for new, innovative treatments that can address the unmet needs of IBD patients. Additionally, wMCA technology can be applied to other disease areas where wMCA is affected, such as obesity, and in studying the impact of bile acids on the gut microbiome, antibiotic resistance, and other diseases like ulcerative colitis or colon cancer.

Technology ID

BDP 8417

Category

Research Tools
Therapeutics/Gastrointestinal
Therapeutics/Platform
Technology
Therapeutics/Immunology
Selection of Available
Technologies

Authors

Julia Yue Cui

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