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BiomX in-licenses novel bacterial targets for IBD treatment

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BX002 offers a groundbreaking approach for treating IBD as it targets a possible underlying cause for the disease



BiomX Ltd., a microbiome company, announced that it has exclusively sub-licensed a set of bacterial targets from JSR Corporation JAPAN.

It is for the development and commercialization of phage therapies that eradicate these targets, as a treatment for inflammatory bowel disease (IBD).

These targets, discovered by Dr. Kenya Honda, Professor of Microbiology and Immunology at Keio University School of Medicine, were shown to be pro-inflammatory and may have a role in the onset and aggravation of IBD.

Using its advanced discovery and development capabilities in phage therapy, BiomX is advancing BX002; a phage composition customized to specifically target and eradicate these IBD associated pro-inflammatory gut bacteria.

BiomX plans to file an investigational new drug (IND) application with the U.S. Food and Drug Administration (FDA) in 2019.

BX002 offers a groundbreaking approach for treating IBD as it targets a possible underlying cause for the disease, whereas existing medications offer only symptomatic relief to this chronic, lifelong condition.

Prof. Honda and his team showed that several bacterial strains, which are typically present in the oral cavity, are more abundant in the gut microbiome of patients with IBD compared to healthy individuals.

The researchers further showed that a subset of these bacterial strains, and in particular certain antibiotic-resistant Klebsiella pneumoniae strains, induce an inflammatory response in the guts of germ-free mice.

They further demonstrated that, when colonizing the gut of IBD model mice, these specific strains of oral bacteria can trigger activation of inflammatory T-cells and induce disease exacerbation.