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BiomX licenses novel targets for phage therapy program

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Bacterial targets licensed were discovered by Professor Takanori Kanai of Keio University School of Medicine



BiomX Ltd., a microbiome company developing both natural and engineered phage therapies has announced it has licensed a new set of bacterial targets from JSR Corporation, Japan for the development and commercialization of phage therapies for Primary Sclerosing Cholangitis (PSC), an orphan liver disease.

While studying intestinal barrier dysfunction implicated in the pathogenesis of PSC, Dr. Takanori Kanai, Professor of Department of Internal Medicine Division of Gastroenterology and Hepatology at Keio University School of Medicine and his research team discovered in the microbiome of patients with PSC specific strains of *Klebsiella pneumoniae* (*Kp*) that disrupt the epithelial barrier. The presence of those strains triggers additional bacterial translocation and liver inflammatory responses.

"Our study identified disease-modulating pathobionts from patients with PSC. One of the key functions of these pathobionts is to disrupt the intestinal epithelial barrier and cause a 'leaky gut'," said Professor Kanai. "Strain specific bacterial targeting thechniques, such as BiomX's phage therapy, have the potential to eradicate these harmful bacteria and possibly treat PSC at its root cause."

Using its advanced discovery and development capabilities in phage therapy, BiomX discovered phage that eradicate the pathogenic strains and is developing a customized phage cocktail as a therapeutic for PSC.

"This is our second collaboration with JSR Corporation, accessing groundbreaking microbiome research conducted at Keio University School of Medicine," said Jonathan Solomon, CEO of BiomX. "Our previous collaboration with JSR and Keio University School of Medicine yielded the lead target for our inflammatory bowel disease program. Phage therapy is an optimal treatment option in this case, allowing long term treatment specifically targeting the pathogenic driver in this chronic disease, without harming the beneficial gut microbiome. We look forward to rapidly advancing this program for the treatment of PSC, a disease for which there are no approved therapies."