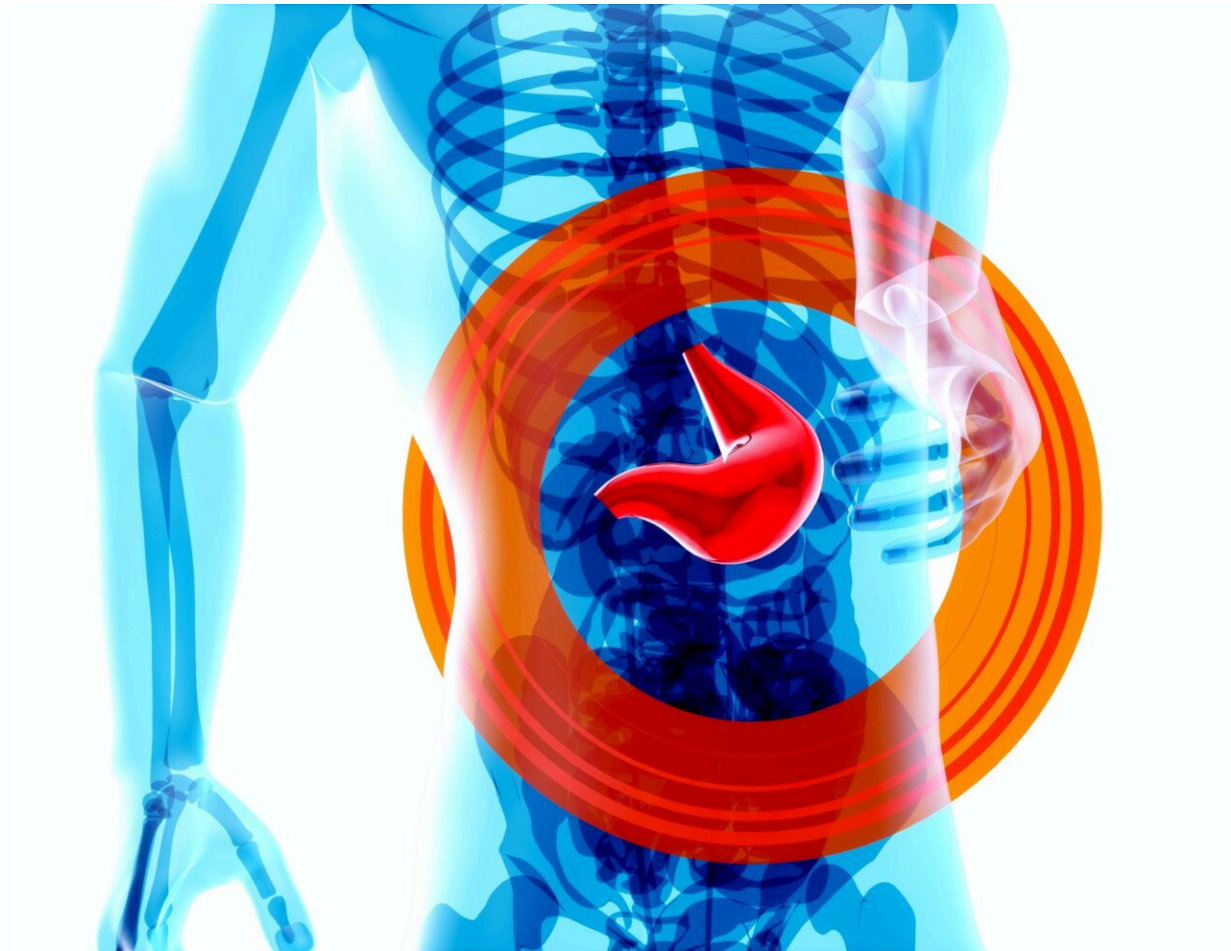


Can bacteria in your gut boost cancer therapies? A San Diego startup thinks so

July 21 2022, by Mike Freeman



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San Diego's Persephone Biosciences, a startup working on cancer

therapies and precision probiotics based on the gut microbiome, has landed \$15 million in early stage seed investment.

Founded five years ago by former employees of local synthetic biology outfit Genomatica, Persephone will use the funds to advance two pre-clinical studies—one focused on [cancer](#) and the other on infants.

In addition, the funding aims to jumpstart the 11-employee firm's own data-driven [technology platform](#) for developing oncology treatments and over-the-counter [microbiome](#) products.

"I think of the microbiome as the gatekeeper of our immune system," said Stephanie Culler, [chief executive](#) and co-founder of Persephone. "It is essentially the collection of microbes that line our [gastrointestinal tract](#) and serve to promote normal immune function to prevent disease. Eighty percent of our [immune cells](#) are in our gut, so the type of microbes that we have are important to having robust immune health."

The cancer study, named Argonaut, is targeting 4,000 people to identify biomarkers in the [gut microbiome](#). Participants are being enrolled in 30 sites, and the study involves a range of cancer types. In December, Janssen Biotech—an arm of Johnson & Johnson—agreed to collaborate with Persephone on the colorectal cancer arm of the study.

The goal is to develop microbiome therapeutics that interact with the [immune system](#) and could be taken in conjunction with certain anti-cancer treatments to fight the disease, said Culler.

"We are really looking to have a comprehensive data-set that understands the function of the microbiome in these oncology patients to develop the next generation of microbiome therapies," she said.

The infant study is pending. It hopes to profile 600 newborns over

several years, looking at their microbiome, along with other information such as the circumstances of birth and whether they were breastfed.

"The issue here, and it is becoming a multi-generational worldwide problem, is many babies today are being born without the right microbes to train their immune systems to help prevent disease," said Culler. "And that is one of the contributors as to why we are seeing such a large increase in food allergies and other issues."

Eventually, Persephone hopes to identify beneficial microbes and "develop an over-the-counter product for the masses that can really target that narrow window in the first months of life," she said.

Culler co-founded Persephone with fellow scientist Steve Van Dien. The funding round was co-led by First Bight Ventures and Propel Bio Partners. It also included investments from Y Combinator, Fifty Years, Susa Ventures, American Cancer Society's BrightEdge Fund, Pioneer Fund, and ZhenFund among others.

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