

# Harnessing the Power of the Microbiome to Treat Challenging Diseases

The human gut microbiota, found in the intestinal tract, is the most diverse and dense microbial community. It plays an important role with metabolism and immunity.

The **gut microbiota** has been linked to many conditions including...

## ***Clostridium difficile* (C. diff.) infection**



*C. diff.* is an intestinal bacteria associated with 29,000 patient deaths per year, leading the CDC to declare *C. diff.* an urgent public health threat.<sup>1</sup>



*C. diff.* infection reoccurs in about 25% of patients who get *C. diff.*



People on antibiotics are 7-10 times more likely to get *C. diff.* while taking the medication and during the months following medication.



## **Ulcerative colitis**

Ulcerative colitis is a chronic disease characterized by inflammation of the intestine which affects a half million Americans.



Current medical therapy for this disease is inadequate for many patients.<sup>2</sup>

## **Multi-drug resistant organisms (MDROs)**



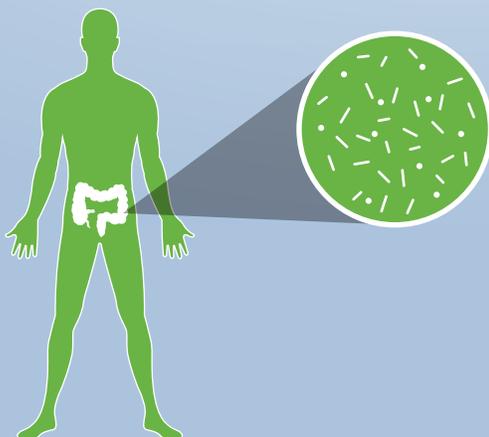
MDROs are bacteria that can live in the gut, and which have become resistant to certain antibiotics.<sup>3,4,5</sup>



Vancomycin-resistant Enterococcus (VRE) is an MDRO and is a challenging healthcare acquired infection associated with increased mortality, length of hospital stays and costs.<sup>3,4,5</sup>

## **Microbiota Restoration Therapy (MRT) from Rebiotix**

**MRT is the Rebiotix drug platform for delivering live microbes into a sick patient's intestinal tract**



**A new approach to treating disease**



Rebiotix is developing a standardized and stable product to deliver live microbes into the intestines.



Lead MRT product, RBX2660, has shown promising results in early clinical trials for the treatment of recurrent *C. diff.* and an oral formulation for prevention of recurrent *C. diff.* is in development.

Rebiotix is investigating and formulating MRT for additional diseases and conditions.

<sup>1</sup> Lessa, FC, Mu Y, Bamberg WM, et al. Burden of Clostridium difficile infection in the United States. *N Engl J Med.* 2015;372:825-34.

<sup>2</sup> Moayyedi P, Surette MG, Kim PT, et al. Fecal microbiota transplantation induces remission in patients with active ulcerative colitis in a randomized controlled trial. *Gastroenterology.* 2015;149:102-09.

<sup>3</sup> Tavazde M, Rybicki L, Mossad S, et al. Risk factors for vancomycin-resistant enterococcus bacteremia and its influence on survival after allogeneic hematopoietic cell transplantation. *Bone Marrow Transplantation.* 2014;49:1310-16.

<sup>4</sup> Jung E, Byun S, Lee H, Moon SI, Lee H. Vancomycin-resistant Enterococcus colonization in the intensive care unit: Clinical outcomes and attributable costs of hospitalization. *Am J Infect Control.* 2014;42:1062-6.

<sup>5</sup> Lloyd-Smith P, Younger J, Lloyd-Smith E, et al. Economic analysis of vancomycin-resistant enterococci at a Canadian hospital: Assessing attributable cost and length of stay. *J Hosp Infect.* 2013;85:54-9.