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Gastrointestinal survival of oral immunoglobulins allows for the management of gastrointestinal conditions and diseases

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Oral immunoglobulins have been tested clinically for over 40 years, yet only recently have these agents been used in patients to manage gastrointestinal conditions and diseases. Multiple studies in animals and humans have found that a percentage of these functional proteins survive the harsh gastric environment into the small and large intestines with small amounts remaining active for antigen binding in the feces. There is a structural basis for this phenomenon, which is due to the highly cross-linked, disulfide bond containing nature of antibodies, 3-dimensional folding and post-translational glycosylation. Dozens of studies suggest the utility of these molecules in infectious enteropathy against bacteria, viruses and protozoa but they more recently have been tested clinically in irritable bowel syndrome with diarrhea (IBS-D), inflammatory bowel disease (IBD) and HIV-enteropathy. *In vitro* and *in vivo* studies demonstrate that a medical food preparation containing serum-derived bovine immunoglobulin/protein isolate (SBI), purified from USDA-approved edible plasma, binds to a wide variety of microbial antigens generated by the cow with exposure feed-lot environments. This protein preparation with over 50% IgG has been shown to safely manage IBS-D, IBD and HIV-enteropathy by providing for a distinctive nutritional requirement. More likely than not, this occurs through the binding of microbial components (i.e., endotoxins) generated during dysbiotic growth and degradation of microbes in the gut. SBI represents a new type of food-based therapy for the management of chronic conditions and diseases of the intestinal tract.

Biography

Bruce P Burnett is an expert in the field of Nutritional Product Development. He is a Vice President of Compliance, Regulatory and Medical Affairs at Entera Health, Inc. He has received his BS degrees in Biology and Chemistry from Eastern Washington University and his Master's and PhD degree in Biochemistry and Biophysics from Yale University. He has also received several NIH and SBIR grants, served on the ad hoc study section for review of SBIR awards and acts as a Reviewer for several journals around the world. He has 50 peer-reviewed publications, 2 book chapters and over 30 peer-reviewed published abstracts.

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