

# ACTIVIA®

## MIND-GUT CONNECTION

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*This article discusses the general health benefits of probiotics, which are strain-specific, and is not meant to imply that ACTIVIA® provides the benefits mentioned in this article. ACTIVIA is a probiotic yogurt that may help reduce the frequency of minor digestive discomfort when consumed twice a day for two weeks as part of a balanced diet and healthy lifestyle. Minor digestive discomfort includes bloating, gas, abdominal discomfort, and rumbling.*

### DISCOVERIES ABOUT THE MIND-GUT CONNECTION

Scientists are discovering links between gut health, the gut microbiome, and the central nervous system, that may have effects on our mood, behaviors, and thought processes. The health of the gut microbiome and its effect on mental and physical well-being is referred to as the gut-brain axis.

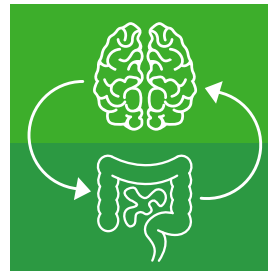
A good way to describe the mind-gut connection is the feeling of “butterflies” in your stomach when you are nervous. This is an example of stress originating from the brain influencing the gut.<sup>1</sup>

### RESEARCH SUGGESTS THERE ARE LINKS BETWEEN DIGESTION, HEALTH, AND MOOD

Made up of over 100 million nerve cells that line the gastrointestinal tract, the gut has its own nervous system (the enteric nervous system) that is referred to as the “second brain.” What you feel in the gut is often connected to what you feel in your brain. This connection supports the findings that digestive discomfort may impair both physical and psychological well-being.<sup>2</sup>

### EVIDENCE SUGGESTS TWO-WAY COMMUNICATION BETWEEN THE GUT MICROBIOME AND THE BRAIN

It is known that psychological and physical stressors can affect the gut. Extensive research over the past several decades shows there is strong evidence suggesting that the reverse is also true. Gut microbiota interacts with the central nervous system by regulating brain chemistry and influencing neuro-endocrine systems associated with stress response, anxiety and memory function.<sup>3</sup>



## IT STARTS IN THE GUT



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### STUDY SUPPORTS THE CONCEPT OF BRAIN-GUT-MICROBIOTA INTERACTIONS IN HEALTHY HUMANS

A study identified associations between the gut microbiota, and brain and behavioral characteristics, by looking at fecal samples of healthy female subjects.<sup>4</sup> Among the samples, two clusters of bacterial prevalence were found: one group with a greater amount of the Bacteroides genus, and another with a greater amount of the Prevotella genus.<sup>4</sup> The findings of this study provide additional support for the concept of a mind-gut connection. Subjects with more of the Bacteroides bacteria showed greater thickness of brain regions involved with complex processing of information and a larger volume of brain regions involved in memory processing.<sup>5</sup> Subjects with more of the Prevotella bacteria had more connections between brain regions dealing with emotion, attention, and sensation.<sup>5</sup> “They also rated higher levels of negative feelings such as anxiety, distress and irritability after looking at photos with negative images than did the Bacteroides group.”<sup>5</sup> Even though researchers don’t yet understand the reasons for, and causes of, these differences, this study supports the concept of brain-gut-microbiota interactions in healthy humans.

### FERMENTED FOODS AND PROBIOTICS TO SUPPORT GUT HEALTH

Researchers are still uncovering new relationship and communication pathways between the brain and the gut. Well-being starts in the gut. Leading a healthy lifestyle and eating a balanced diet rich in fruits and vegetables can support the gut and promote overall health. Also, encourage your patients to support gut health by adding fermented foods and probiotics to their diet. Fermented foods intake is associated with greater gut microbiota diversity, a marker of good gut health. While probiotics generally do not colonize the gut, many do provide their benefits in the colon, having a beneficial impact on the bacteria already living there.<sup>6</sup>

#### REFERENCES

1. Bugs on the Brain: the Microbiota-Gut-Brain Axis. International Scientific Association for Probiotics and Prebiotics (ISAPP). September 2017. Available at: <https://isappscience.org/bugs-brain-microbiota-gut-brain-axis/> [Accessed December 13, 2021]. 2. Shah E, Rezaie A, Riddle M, Pimentel M. Psychological disorders in gastrointestinal disease: epiphenomenon, cause or consequence?. *Ann Gastroenterol*. 2014;27(3):224-230. 3. Carabotti M, Scirocco A, Maselli MA, Severi C. The gut-brain axis: interactions between enteric microbiota, central and enteric nervous systems. *Ann Gastroenterol*. 2015;28(2):203-209. 4. Tillisch K, et al. Brain Structure and Response to Emotional Stimuli as Related to Gut Microbial Profiles in Healthy Women. *Psychosom Med*. 2017;79(8):905-913. 5. Rivero E. Research suggests association between gut bacteria and emotion. UCLA Newsroom. 2017. <https://newsroom.ucla.edu/releases/research-suggests-association-between-microbiome-and-emotion> Accessed January 5, 2022. 6. Sanders M, et. al. Probiotics for human use. *Nutr Bull*. 2018;43(3):212-225.