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The Role of Nutrition and Food Security in the Enteric Nervous System

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Message from the Guest Editor

The enteric nervous system (ENS) regulates motor activity, intestinal excretion, blood flow and collaborates with the intestinal endocrine and immune system independently of the central nervous system. Due to its autonomy and the number of neurons that comprise the ENS, it is referred to as the “intestinal brain”. Moreover, the ENS is very flexible in response to pathological agents and is adaptable to changing environmental conditions caused by structural changes, alterations in excitability, or a change in the neurochemical phenotype of nerve cells.

Diet is among the most prominent factors determining the chemical milieu in the lumen and, after absorption, within the gut wall. However, some dietary toxins can disrupt the functionality of the ENS, affecting the behavior of enteric neurons and enteric glial cells. Thus, the enteric nervous system may play a vital role in ensuring food security.

This Special Issue focuses on the current research addressing the influence of diet and food security on the enteric nervous system and mechanisms connected to nutrients. New research papers, reviews that investigate these associations and the underlying causes are welcome.



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Special Issue



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