International Scholars Journals

African Journal of Medical Case Reports

Physiological effects of lactobacillus plantarum PS128 on brain functions of Fmr1 mice

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Abstract

Autism spectrum disorder (ASD) is one of the most common neurodevelopmental diseases. It affects more than 10 million children in China, and the incidence of ASD remains increased. The existed drug treatments and behavior-guided treatments cannot improve it well. Autistic patients have stereotyped behaviors and significant barriers in social communication and interaction. Much attention has been paid to the research in probiotics and mental diseases because the discovery of microbiota-gut-brain axis. Many patients with ASD have symptoms of gastrointestinal flora disorders, therefore change of intestinal microbes may aid in treatment of autism. It is known that Lactobacillus plantarum PS128 can improve the locomotor status and cognition; it relieves anxiety and promotes social activities of animals. Lactobacillus plantarum PS128 has been used as food supplements, previous studies indicated that it can be a benefit for ASD patients and their families. This article is designed to explore the physiological effects of Lactobacillus plantarum PS128 on ASD using animal experiments. The article mainly includes

1. Establish the feeding method of PS128 to the Fmr1 mice
2. Behavioral studies in the mice with constantly feeding of PS128
3. Studies in changes of neurotransmitter in different brain regions of mice
4. Explore changes in macromolecules in target brain regions
5. Summarize possible mechanisms of PS128 on brain functions

Biography

Cui Yinmin has completed her undergraduate at the age of 22 years old from Shanghai Ocean University and she is in the second year of a master's degree in East China Normal University. Her recent research in about Autism Spectrum Disorder. She has published 2 papers in reputed journals and plan to study abroad to get a doctoral degree in the field of neuroscience.

28th International Conference on Neurosurgery and Neuroscience
December 13, 2021

Citation: Cui Yingmin, Physiological effects of lactobacillus plantarum PS128 on brain functions of Fmr1 mice, Neurosurgery 2021, 28th International Conference on Neurosurgery and Neuroscience, December 13th, 08.