



# A LINK BETWEEN GUT MICROBIOTA AND ALZHEIMER'S DISEASE: IMPACT OF NEUROPOLEN

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**Alzheimer's disease is a most common neurodegenerative disorder, which associates with impaired cognition.**

**Gut microbiota can modulate host brain function and behavior via microbiota-gut-brain axis, including cognitive behavior.**

**Antibiotics can induce alterations of gut microbiota and gut physiology and also host cognitive behavior, increasing or decreasing risks of Alzheimer's disease.**

**The increased permeability of intestine and blood-brain barrier induced by gut microbiota disturbance will increase the incidence of neurodegeneration disorders.**



**Imbalances in the gut microbiota can be also associated with the neurodegeneration.**

**There is increasing interest in the role of the peripheral immune system in Alzheimer's disease pathology.**

**We are currently assessing whether indoles can also stimulate formation of neurons in Alzheimer's disease.**



**Disturbances along the brain-gut-microbiota axis may significantly contribute to the pathogenesis of neurodegenerative disorders.**

**Alterations in the gut microbiota composition induce increased permeability of the gut barrier and immune activation leading to systemic inflammation, which in turn may impair the blood-brain barrier and promote neuroinflammation, neural injury, and ultimately neurodegeneration.**

**Nutrition is known to play an important role in the pathogenesis of Alzheimer's disease.**

**In addition, the use of nutraceuticals can be part of a comprehensive approach to delay neurodegeneration.**



## Objective

**Modification of the gut microbiota composition by nutraceuticals may create new preventive and therapeutic options in Alzheimer's disease.**

**To arrive at these observations, the authors examined how Neuropolen and diet delay neurodegeneration.**



## Materials and methods

**Alzheimer's disease may begin in the gut, and is closely related to the imbalance of gut microbiota.**

**We are currently assessing whether indoles can also stimulate formation of neurons in Alzheimer's disease.**



**Neuropolen is a nutraceutical (food with a dual role of nutrition and health) for the regeneration of destroyed nerve cells.**

**The use of the components of Neuropolen in the solution of human medical conditions was made long before the appearance of the product under this name.**



Neuropolen



**Neuropolen is a natural neuroregenerator of the nerve cell.**

**Neuropolen contains freeze-dried pollen from Deniplant plants, cocoa bean and carob seed powder, brewer's yeast.**

**Combining them we managed to obtain a product with a wide spectrum of action without side effects or side effects.**

**The components themselves are foods that we can eat daily.**

**That's why Neuropolen has the slogan "Eat and heal"**



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## Results

**It has now been shown that microbiota affects brain functions through various metabolites with potentially positive or, conversely, toxic properties.**

**The immune system has a prominent role in Alzheimer's disease pathogenesis with both innate and adaptive immunity in the central nervous system.**

**Modulation of gut microbiota through personalized diet or beneficial microbiota intervention will probably become a new treatment for Alzheimer's disease.**

**There is a strong link between Alzheimer's disease and chronic inflammation.**



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**Due to its composition rich in antioxidants, anti-inflammatory agents, amino acids, minerals and natural vitamins, neuroregenerative molecules, the product Neuropolen offers various possibilities to balance the processes that take place in the nerve cell.**

**Being a food, it is not medically certified, but its components have scientifically proven healing qualities.**



## Conclusion

**Alzheimer's disease is a neurodegenerative disorder characterized by a progressive decline in memory and thinking severe enough to interfere with daily life.**

**Alzheimer's disease may begin in the gut, and is closely related to the imbalance of gut microbiota.**

**Modification of the gut microbiota composition by nutraceuticals may create new preventive and therapeutic options in Alzheimer's disease.**

**Existing evidence suggests that dietary lifestyle changes may affect cognitive function. This study is another intriguing piece of the puzzle highlighting the importance of lifestyle factors and diet.**



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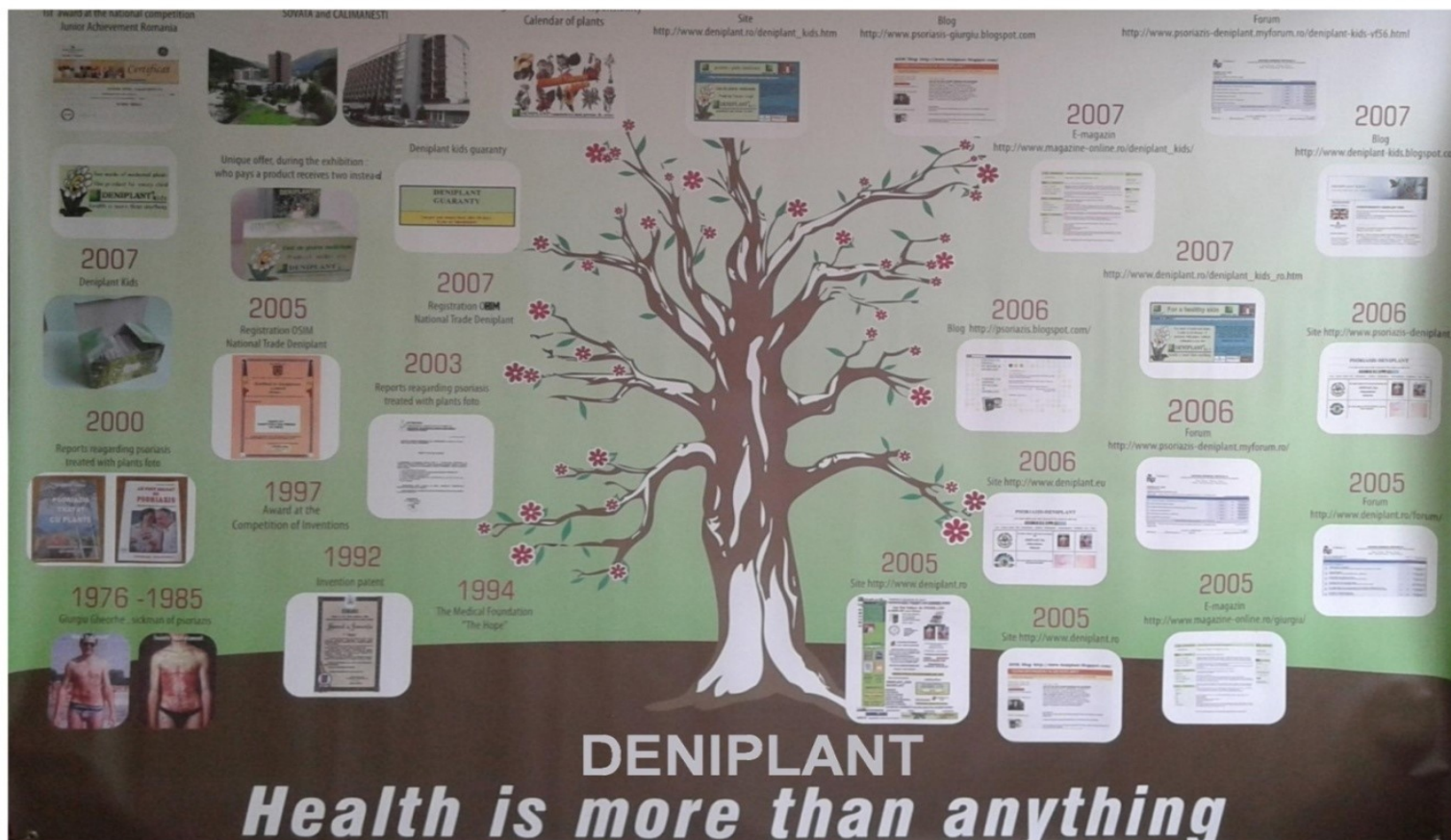
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