NEW BIOTIC, INC. Introduces:

RaphaN™

Are you experiencing…

Short term memory loss like misplacing items, and forgetting names, places or objects? Disorganized, slow or slurred speech? Delusions, or impulsive behavior? Loss or slowing down of movement? Numbness, tingling pain, cramps, twitching, tremors or muscle stiffness? Smaller handwriting or stooped posture? These can be early warnings of brain disorders.

Glutamate Metabolism Dysfunction (GMD) in the gut has been found to be a major cause of neurological disorders.

Glutamate Blood Tests can identify individuals with GMD and RaphaN™ was specifically designed to help the gut correct these dysfunctions.

RaphaN™

A probiotic medical food containing a proprietary blend of 28 ingredients that aids the metabolism of glutamate.

NEW BIOTIC
Restoring Wholeness And Freedom

How does it work?

- Glutamate is the most abundant amino acid in dietary protein.[3]
- Glutamate is also an important neurotransmitter that accounts for about 90% of brain activity.[2]
- However, if not metabolized properly, it may reach excessively high levels in both the blood and the brain, which are associated with and found to cause excitotoxicity in many brain diseases, respectively.[5]
- Studies have shown that reducing blood glutamate leads to neurological improvements.[9, 4]
- Glutamate blood tests measure the level of GMD and help identify who could benefit from RaphaN™.
- If your test shows that you have elevated GMD, administration of RaphaN™ could lower your serum glutamate level.
- RaphaN™ is a probiotic medical food with potent enzymes that aid the metabolism of dietary glutamate.
- In addition, a vegan diet can help reduce glutamate intake. Glutamate levels in foods can be found in the USDA's National Nutrient Database.[12]

Brain diseases linked to high plasma and brain glutamate:

1. Alzheimer's Disease[10]
2. Parkinson's Disease[8]
3. Multiple Sclerosis[1]
4. Autism[11]
5. Schizophrenia[7]
6. Amyotrophic Lateral Sclerosis[6]
7. And more!

References

1. Al Gawwam, G., & Sharquie, I. K. (2017). Serum glutamate is a predictor for the diagnosis of multiple sclerosis. *The Scientific World Journal, 2017*, 1-5.
2. Andersen, J., Markussen, K., Jakobsen, E., Schousboe, A., Waagepetersen, H., Rosenberg, P., & Aldana, B. (2021). Glutamate metabolism and recycling at the excitatory synapse in health and neurodegeneration. *Neuropharmacology*. doi:https://doi.org/10.1016/j.neuropharm.2021.108719
3. Blachier, F., Boutry, C., Bos, C., & Tome, D. (2009). Metabolism and functions of L-glutamate in the epithelial cells of the small and large intestines. *Am J Clin Nutr*, 814S-21S.
4. Campos, F., Sobrino, T., Ramos-Cabrer, P., Argibay, B., Agulla, J., Perez-Mato, M., . . . Castillo, J. (2011). Neuroprotection by glutamate oxaloacetate transaminase in ischemic stroke: an experimental study. *Journal of Cerebral Blood Flow & Metabolism, 31*(1378–1386).
5. Dong, X.-x., Wang, Y., & Qin, Z.-h. (2009). Molecular mechanisms of excitotoxicity and their relevance to pathogenesis of neurodegenerative diseases. *Acta Pharmacol Sin, 30*(4), 379-387.
6. Foran, E., & Trotti, D. (2009). Glutamate Transporters and the Excitotoxic Path to Motor Neuron Degeneration in Amyotrophic Lateral Sclerosis. *Antioxidants and Redox Signaling, 11*(7), 1587-1602.
7. Ivanova, S. A., Boyko, A., Fedorenko, O. Y., Krotenko, N., Semke, A., & Bokhan, N. (2014). Glutamate concentration in the serum of patients with schizophrenia. *Procedia Chemistry, 10*, 80-85.
8. Iwasaki, Y., Ikeda, K., Shiojima, T., & Kinoshita, M. (1992). Increased plasma concentrations of aspartate, glutamate and glycine in Parkinson's disease. *Neuroscience Letters*, 175-177.
9. Leibowitz, A., Boyko, M., Shapira, Y., & Zlotnik, A. (2012). Blood Glutamate Scavenging: Insight into Neuroprotection. *International Journal of Medical Sciences, 13*(10041-10066), 10041-10066.
10. Miulli, D. E., Norwell, D. Y., & Schwartz, F. N. (1993). Plasma concentrations of glutamate and its metabolites in patients with Alzheimer's disease. *The Journal of the American Osteopathic Association, 93*(6), 670-6.
11. Shimmura, C., Suda, S., Tsuchiya, K. J., Hashimoto, K., Ohno, K., Matsuzaki, H., . . . Mori, N. (n.d.). Alteration of plasma glutamate and glutamine levels in children with high-functioning autism. *Lpose One, 6*(10), 1-6.
12. USDA National Nutrient Database for Standard Reference Release 28 Software v.3.8.6.1 2017-07-28. The National Agricultural Library