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Nutraceutical agent for attenuating the neurodegenerative process associated with Parkinson's disease
Patent No. 8,367,121

A comprehensive nutraceutical designed to antagonize major mitigating factors to the degenerative process associated with Parkinson's disease.

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Key Features:

All Natural – Use of combined oral nutritional applications targeting specific pathological processes associated with PD.

Field:

Nutrition, pharmacology, neurology, pathophysiology, medicine and movement disorders

Technology:

Therapeutic

Stage of Development:

Needed to Conduct Human Clinical Trials Phase I

Status:

Seeking further research & development support and/or licensing partner.

Patent(s) Status:

Issued

Background:

Parkinson's disease (PD) is a complex neurodegenerative disorder involving the predominant loss of dopaminergic neurons in the substantia nigra pars compacta (SNc), subsequent decay of the nigrostriatal tract and associated movement anomalies such as rigidity, bradykinesia and tremor. The foremost pathological features associated with SNc dopaminergic degeneration are mitochondrial abnormalities, ergogenic failure, excessive dopamine oxidation, Lewy body deposition, inflammation, α -synuclein/ubiquitinated protein aggregation, heightened concentration of redox-active free iron and a gradual loss of neuromelanin in and around the SNc. Susceptibility of these events could be dependent upon a battery of genetic mutations (ie parkin, DJ-1, PINK-1, LRRK2, park-1, ubiquitin-carboxy-terminal-hydrolase L1) or exposure to environmental mitochondrial toxins, head trauma, viral/bacterial infections, metals, antipsychotic/antidepressant drugs or rural/farm living

Statement of Problem:

Standard medical treatment for PD involves the use of therapeutics that mitigate neurological effects through modulation/regulation of neurotransmitter function (ie. levodopa/dopa-decarboxylase inhibitors Sinemet and Madopar, dopamine agonists, catechol-o-methyltransferase inhibitors, monoamine oxidase (MAO) inhibitors, anti-cholinergics and surgical treatments. There is a need for nutritional formulations that could slow the progressive nature of this disease, extending quality of life and rapid decline with late stage onset.

Potential Solution:

FAMU has developed and patented a nutraceutical formulation/vitamin that PD patients can take orally, that could potentially slow/halt the neurodegenerative process. The premise for the invention is based on experimental findings of protective agents in a number of experimental models that pertain specifically to PD. The formulation is comprised of a proprietary blend of carboxylic acids, pyruvate, succinate, alpha.-ketoglutarate and/or oxaloacetate, niacin/NADH, further combined with specific macro/micronutrients, trace elements, amino acids, biochanin A ,butein and/or concentrated plant sources.

Commercialization Status:

The product holds potential for development and commercialization with specialty therapeutics in areas of PD. Currently, clinical trials would be required.