

PERUSAL OF PATENTS REGARDING PARKINSON'S DISEASE

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The patent literature describes the efforts of many inventors to win fame and fortune. There are many disclosures in such literature of compositions and/or processes that purport to cure or alleviate the symptoms of Parkinson's disease.

The United States patents and United States published patent applications are publicly available. They may be accessed on the web at "uspto.gov".

1. PUBLISHED PATENT APPLICATION 2007/0116779 CONTAINS A DESCRIPTION OF PARKINSON'S DISEASE AND MANY OF THE REPORTED PROCESSES AND/OR COMPOSITIONS FOR TREATING SUCH DISEASE.

Published United States patent application US 2007/0116779 of Elizabeth Mazzio is entitled "COMPREHENSIVE NUTRACEUTICAL AGENT FOR TREATMENT/PREVENTION OF PARKINSON'S DISEASE." It appears to contain an excellent discussion both of Parkinson's disease and/or many of the approaches that have been reported in the "prior art" for treating such disease.

2. PARAGRAPH [0004] OF SUCH PATENT APPLICATION DESCRIBES THE CAUSES OF PARKINSON'S DISEASE, STATING:

"[0004] Parkinson's disease (PD) is a complex neurodegenerative disorder involving the **predominant loss of dopaminergic neurons** in the substantia nigra pars compacta (SNc), the subsequent decay of the nigrostriatal tract and associated **movement anomalies such as rigidity, bradykinesia and tremor**. The foremost pathological features associated with SNc degeneration...are **mitochondrial abnormalities**, ergogenic failure..., **excessive dopamine (DA) oxidation**, Lewy body deposition...."(Emphasis added)

3. PARAGRAPHS [0009] AND [0010] OF SUCH PUBLISHED PATENT APPLICATION DESCRIBES "A PRIOR ART REVIEW FOR NOVEL APPROACHES TAKEN BY OTHERS TO ANTAGONIZE THE NEURODEGENERATIVE PROCESS ASSOCIATED WITH PD...", DISCLOSING THAT:

"[0009] A prior art review for novel approaches taken by others to antagonize the neurodegenerative process associated with PD include experimental/trial use of SOD/catalase/peroxidase mimetics...(U.S. Pat. No. 6,984,636 Murphy et al, Jan. 10, 2006; U.S. Pat. No. 6,573,257

Malfroy-Camine , et al. Jun. 3, 2003), anti-apoptotic MAO inhibitors, independent or combination MAO inhibitor/metal chelators (...WO-2004/006856, Andersen J, Jan. 22 2004), cholinesterase/MAO inhibitors...., , iron chelator/antioxidant/**anti-inflammatory combinations** (...U.S. Pat. No. 6,900,338, Haj-Yehia May 31, 2005), **anti-inflammatory agents...**, **histamine antagonists** (U.S. patent application Ser. No. 07/954,258 Kaminski, Sep. 30, 1992), NOS inhibitors, COX-2 inhibitors (WO2004/058163 Mark and Hathaway, Dec. 19, 2003 ; U.S. 60/373,317 Stephenson et al., Apr. 18, 2002), JNK inhibitors (U.S. Pat. No. 6,987,184 Sakata et al., Jan. 17, 2006; U.S. Pat. No. 6,949,544, Bethiel et al., Sep. 27, 2005... phytic acid (U.S. Pat. No. 5,206,226, Sabin Apr. 27, 1993), **vitamin E, vitamin C, coenzyme Q10**, lipoic acid, creatine (...U.S. patent application Ser. No. 09/283,267 Kaddurah-Daouk and Beal, Apr. 1, 1999), creatine/COX-2 inhibitors..., ginsenoside Rg1 from **ginseng...**, **ginseng extract...**,thiol antioxidants...glutathione (U.S. Pat. No. 6,896,899 Demopolos et al., May 24, 2005) glycine, serine (CA 2454337 Heresco-Levy and Javitt, Aug. 6, 2004), ginkgo biloba extracts..., **green tea extract/catechins**. (US2002151506. Castillo et al., Oct. 17, 2002), myelin associated protein antibodies (U.S. Pat. No. 5,684,133, Schwab et al. Nov. 4, 1997), nerve growth factors..., phenoxyphenyl derivatives (U.S. Pat. No. 5,430,063, Ruigt et al. Jul. 4, 1995), melanin (U.S. Pat. No. 5,210,076 Berliner et al., May 11, 1993), hormones (U.S. Pat. No. 4,902,680, Aroonsakul Feb. 20, 1990), dehydroepiandrosterone..., estrogen receptor agonists..., adenosine A2 receptor antagonists..., AMPA antagonists..., mGlu2/3 metabotropic and glutamate receptors agonists...., **acupuncture**...., free radical spin traps...., transglutaminase inhibitors (ie. cystamine) (U.S. 60/444,563 Mouradian and Junn, Feb. 2, 2003) and angiotensin-converting enzyme inhibitors...." (Emphasis added)

"[0010] In terms of patent literature, prior art by others includes nutraceutical formulations that may apply to the treatment of PD or mitochondrial disorders such as 1) a nutraceutical comprised of tyrosine, iron and at least one selected from the group consisting of vitamin B6, folate, vitamin B3 or zinc to enable dopamine synthesis, secretion and transport for treatment of PD (WO-98/32464 Bridgeman and McMunn, Jan. 27, 1998) 2) a nutraceutical for improving memory, comprised of at least one phosphoester, at least one herbal antioxidant±amino acids, vitamins, where the primary component plays a critical role in neurotransmitter function within the hippocampus (U.S. Pat. No. 6,733,797, Summers May 11, 2004) 3) a nutraceutical formulation comprising acetyl L-carnitine, lipoic acid, coenzyme Q10, Vitamin E and selenomethionine suitable for counteracting oxidative stress or mitochondrial pathologies (U.S. Ser. No. 09/968,986 De Simone, Oct. 3, 2001), 4) a formulation comprised of at least one essential fatty acid, at least one of vitamin B12, folic acid and vitamin B6, for treatment of any

disease related to homocysteine (WO2001/003696, Horrobin and Gouaille, Jul. 11, 2000) and 5) a nutraceutical for treating degenerative disorders comprised of a) an agent that promotes ATP production selected from creatine, lipoic acid or trimethyl glycine b) at least one agent for scavenging free radicals selected from taurine, ginkgo, acetyl-L-carnitine, vinpocetin, lipoic acid, coenzyme Q10 and resveratrol c) at least one agent for maintaining membrane function selected from the group consisting of inositol and choline d) at least one agent for maintaining neurotransmitter function selected from DMAE or choline and e) at least one agent that downregulates cortisol, comprising pyridoxine and an agent that blocks apoptosis comprising huperzine (U.S. Pat. No. 6,964,969, McCleary, Nov. 15, 2005). The formulation that comprises this invention as set forth is specifically designed for PD and relates to blocking dopaminergic toxicity of the SNc and a large number of downstream deleterious events."

4. ALLERGIES HAVE BEEN LINKED TO PARKINSON'S DISEASE. IN THE AUGUST 8, 2006 EDITION OF "SCIENCE DAILY," IT DISCLOSES THAT:

"Researchers from Mayo Clinic have discovered that allergic rhinitis is associated with the development of Parkinsons disease....The association with Parkinson's disease is increased to almost three times that of someone who does not have allergic rhinitis...."
(Emphasis added)

4.(a) THE AUTHORS OF THE STUDY THEORIZED THAT A TENDENCY TOWARD INFLAMMATION IS A KEY LINK BETWEEN ALLERGIC RHINITIS AND PARKINSON'S DISEASE.

"People with allergic rhinitis mount an immune response with their allergies, so they are more likely to mount an immune response in the brain as well, which would produce inflammation," Dr. Bower said. **"The inflammation produced may release certain chemicals in the brain and inadvertently kill brain cells, as we see in Parkinson's."**
(Emphasis added)

5. PUBLISHED UNITED STATES PATENT APPLICATION US2002/0151506 DISCUSSES THE USE OF GREEN TEA IN THE TREATMENT OF PARKINSON'S DISEASE.

Published United States patent application 2002/0151506, by Gerardo M. Castillo et al., discusses "CATECHINS FOR THE TREATMENT OF FIBRILLOGENESIS IN ALZHEIMER'S DISEASE, PARKINSON'S DISASE,

SYSTEMIC AA AMYLOIDOSIS, AND OTHER AMYLOID DISODERS." In paragraph [0004] of this application, it is disclosed that:

"0004 Parkinson's disease is another human disorder characterized by the formation, deposition, accumulation and/or persistence of abnormal fibrillar protein deposits that demonstrate many of the characteristics of amyloid. In Parkinson's disease, an accumulation of cytoplasmic Lewy bodies consisting of filaments of alpha-synuclein/NAC are believed important in the pathogenesis and as therapeutic targets. New agents or compounds able to inhibit alpha-synuclein/NAC formation, deposition, accumulation and/or persistence, or disrupt pre-formed alpha-synuclein/NAC fibrils (or portions thereof) are regarded as potential therapeutics for the treatment of Parkinson's disease."

Thereafter, the Castillo et al. application discloses the use of "standardized green tea extract" to treat, e.g., Parkinson's disease. It is disclosed that:

"[0009] The identification and use of standardized green tea extract and derivatives and constituents thereof, such as the catechin compounds shown for example in FIG. 1, are disclosed for the therapeutic intervention of...Parkinson's and Lewy body diseases."

"[0010]...Use of standardized green tea leaf extract and its ingredients (i.e. 50% **polyphenols**) contained within different commercial preparations are anticipated to benefit human patients with Alzheimer's disease and other amyloidoses, and Parkinson's and Lewy body diseases, due to green tea leaf extract's ability to inhibit amyloid fibril formation, and Parkinson's alpha-synuclein fibril and Lewy body formation, **and to cause dissolution/disruption, and disaggregation of pre-formed amyloid and alpha-synuclein fibrils.**" (Emphasis added)

7. PUBLISHED UNITED STATES PATENT APPLICATION US2005/0004046 SUGGESTS THAT THE USE OF GREEN TEA TOGETHER WITH EXERCISE MAY HAVE A "SYNERGISTIC EFFECT" IN PROMOTING "NEUROGENESIS."

This published patent application discloses certain factors that have an effect upon "cognitive performance," stating that:

"[0004]A variety of factors, such as sleep deprivation aging and certain neurodegenerative diseases, can have adverse effects on cognitive performance. **Recent research shows that exercise can counteract the detrimental effects of these conditions on memory function....**" (Emphasis added)

" [0015] The invention is based, in part, on **the unexpected discovery of a synergistic action between physical exercise and administration of either a flavonoid or an antioxidant. While administration of either compound does not affect cognitive performance or neurogenesis under basal conditions, the invention described herein discloses that, when combined with a physical activity, for example, a physical exercise routine either a flavonoid or an antioxidant can increase cognitive performance and enhance cell proliferation, in particular, neurogenesis....**" (Emphasis added)

8. THERE ARE OTHER UNITED STATES PATENTS AND PUBLISHED U.S. PATENT APPLICATIONS THAT DEAL WITH NEUROGENESIS, TO WIT:

US20030064082 (**Antipsychotic agents stimulate neurogenesis**)

US 6,969,702 (**Compounds and methods for increasing neurogenesis**)

Published U.S. patent applications US20050009742, US20050009847, US20050209142, and US20060079448 (**Compounds and methods for increasing neurogenesis**)

US2007001048 (**Method for treating or inhibiting the effects or injuries or diseases that result in neuronal degeneration**)

US20070067001 (**Inducing neurogenesis within a human brain**)

US20070135393 (**Prevention of deficits in neurogenesis with anti-inflammatory agents**).