

## Prof. Youdim's Inventions for Neurodegenerative Disease Therapy (BioRap)

**Prof. Youdim, a ground breaking researcher, is listed as an inventor in over 90 patents dealing with neurodegenerative diseases. His research has greatly increased the scientific community's understanding of the processes involved in the development of these diseases and has led to the identification and development of several novel neuroprotective anti-Parkinson and anti-Alzheimer drugs including rasagiline, TV3326 and (-)-epigallocatechin-3-gallate (EGCG). Bio Rap, in collaboration with TRDF is offering collaboration for the further development of his inventions.**

Prof. Moussa B.H. Youdim, Professor of Pharmacology at the Technion- Rappaport Family Faculty of Medicine and the Director of the Eve Topf and National Parkinson Foundation (USA) Neurodegenerative Disease Research and Teaching Centers of Excellence, an independent extension of the Department of Pharmacology at the Technion-Rappaport Faculty of Medicine, has been doing research at The Technion since 1977.

Prior to 1997 the focus of research was in trying to find the "magic bullet", the perfect drug that would cure neurodegenerative diseases without the risk of harmful side effects. Since then, because of information gained from the research of Prof. Youdim and others, the focus of research has shifted to the development of multifunctional drugs. A multifunctional drug is basically a drug which has a number of different active components and can act at different sites in the cell and in the brain; and is able to fight the various effects of a disease and will probably take the form of chronic therapy in neurodegenerative diseases.

Prof. Youdim is listed as an inventor in over 90 patents dealing with Parkinson's disease and other neurodegenerative diseases. His research has greatly increased the scientific community's understanding of the processes involved in the development of these diseases and has led to the identification and development of several novel neuroprotective anti-Parkinson and anti-Alzheimer drugs including rasagiline, TV3326 and (-)-epigallocatechin-3-gallate (EGCG). There seems to be great homology in the biochemical mechanism in the different neurodegenerative diseases.

Parkinson's disease is a degenerative disorder of the central nervous system. The disease may be initiated by many factors, neurochemical or neurotoxic. The current research shows that one of the pathological aspects of almost all neurodegenerative diseases is that an accumulation of excess iron occurs at the sites where neurons die. Although iron progressively accumulates in the brain with age, iron-induced oxidative stress can cause neurodegeneration. In 1991 Prof. Youdim and his colleagues were the first in the world to suggest and show that iron chelators, drugs that can chelate iron and remove it from the cell, can be neuroprotective. An accumulation of excess iron has also been shown to exist in other diseases, such as macular degeneration, and cardiovascular diseases..

Prof. Youdim is also now working in collaboration with Alcon Pharmaceuticals, one of the largest drug companies worldwide. They are interested in developing drugs to treat macular degeneration, a disease estimated to affect between 15 - 20 million Americans.

Collaboration between TRDF (Technion Research Development Fund) and Teva resulted in the development of Rasagiline (Azilect), which was developed as a Selegiline like compound. The drug


has been on the market worldwide for about a year. A delayed study in the U.S. has indicated that Rasagiline, in addition to its symptomatic action, may also have a disease modifying effect,. Rasagiline has recently been shown to be a highly significant drug for cardiovascular diseases as well.

Bio-Rap Technologies the commercial arm of the Rappaport Institute, together with TRDF, is looking for additional collaborative opportunities for the further validation, development and subsequent commercialization of Prof. Yudim's inventions

### **Related Links**

[Prof. Moussa B.H. Youdim](#)

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