TECHNION RESEARCHERS ID CLUSTER OF GENES IN BLOOD THAT PREDICT PARKINSON'S

There is currently no laboratory test that can diagnose Parkinson's disease. It (PD) can only be diagnosed by a clinical neurological examination based on findings suggestive of the disease.

Alzheimer's plaques and tangles   Parkinson's Lewy bodies
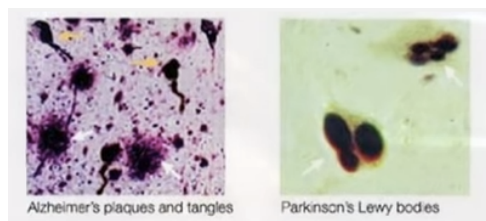
That was until researchers from the Technion-Israel Institute of Technology Faculty of Medicine identified a biomarker comprised of five genes shown to predict Parkinson's disease with high accuracy. The findings appear in the journal *Molecular Neurodegeneration*.

Dr. Silvia Mandel

"A predictive biomarker for Parkinson's disease could also help to identify high-risk individuals before symptoms develop – a stage where prevention treatment efforts might be expected to have their greatest impact to slow disease progression," says lead researcher Dr. Silvia Mandel. "It could allow diagnosis of the genetic risk factors or those who may exhibit pre-symptomatic stages of the disease[depression, sleep disturbances, or hyposmia (reduced ability to smell)] and are good candidates for neuroprotective treatment."

GREEN TEA SHOWN TO HAVE REJUVENATING EFFECT ON DAMAGED CELLS

The main antioxidant in green tea could be a potent way to prevent PD and other neurodegenerative diseases, according to research done by Professor Moussa Youdim and Dr. Silvia Mandel (shown above), co-director of the Parkinson Foundation Centers at the Technion-Israel Institute of Technology.

The substance, EGCG, can enter brain cells and keep neurons from dying. Mandel found that even after many neurons have already been damaged, the green tea oxidant is capable of rescuing the remaining healthy ones. If taken in moderation, she suggests, green tea may be part of both a preventative and an anti-progression strategy.
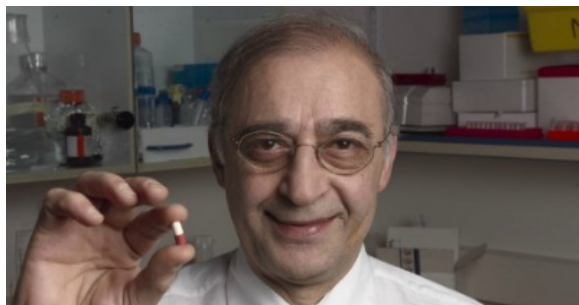
AZILECT – A SCIENTIFIC MEDICAL BREAKTHROUGH

Azilect, developed by Technion professors John Finberg and Moussa Youdim, is a popular drug to treat PD symptoms, and is prescribed for patients in 56 countries.

Professor Emeritus Moussa Youdim

Azilect blocks the monoamine-oxidase-B that breaks down the neurotransmitter dopamine in the brain. In patients with Parkinson's disease, the cells that produce dopamine in the brain begin to die and the amount of dopamine in the brain decreases.

From Innovation to Marketplace

Azilect®
The Technion/TEVA development drug breaks records.

The patients then lose their ability to control their movements reliably. By increasing levels of dopamine in the parts of the brain that control movement and coordination, Azilect improves the signs and symptoms of PD such as stiffness and slowness of movement.

InSightec's ExAblate Neuro

Time designated InSightec's magnetic resonance-guided focused ultrasound as one of the 50 best inventions in 2011.

Engineers and PhDs from the world-renowned Technion-Israel Institute of Technology started InSightec.

Neurosurgeons and physicists at leading research hospitals in Switzerland, Korea, Tokyo, Canada and the US are currently using InSiightec's ExAblate Neuro experimentally to treat essential tremor, a common movement disorder.

The first Parkinson's patients in a Phase III study are being enrolled this year.

The Technion-Israel Institute of Technology is a major source of the innovation and brainpower that drives the Israeli economy, and a key to Israel's renown as the world's "Start-Up Nation." Technion people, ideas and inventions make immeasurable contributions to Israel's economy and security.