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Alzheimer drug pioneer to get Israel Prize

Prof. Marta Weinstock-Rosin, who developed Exelon, will be recognized for her work on Israel Independence Day

BY DAVID SHAMAH | March 4, 2014, 4:56 pm |

Rivastigmine — commercially known as Exelon — is one of the most important drugs to have emerged from Israeli medical research labs in recent years. It's so significant, in fact, that its chief developer, Prof. Marta Weinstock-Rosin, is to be awarded the Israel Prize for Medicine this year for her work.

The most prestigious award in Israel, the Prize is presented in an official state ceremony on Israel's Independence Day, presided over by the president, prime minister, Knesset speaker and Supreme Court president.

Weinstock-Rosin, who is Orthodox, was born in Vienna and fled with her family to Britain in 1939, escaping the Nazis. She came to Israel with her family in 1969, and became a Professor at Hebrew University in 1981. Since 1983, she has been head of the Hebrew University's School of Pharmacy-Institute for Drug Research in the Faculty of Medicine.

Weinstock-Rosin was the lead developer for what would eventually become the Novartis Exelon Patch, the first and only FDA-approved skin patch for treatment of Alzheimer's disease, which many researchers believe is caused by the breakdown of a brain neural transmitter called acetylcholine.

Rivastigmine, the generic name for Exelon, prevents the breakdown of acetylcholine by an enzyme called acetylcholinesterase. The more acetylcholinesterase, the better nerve cells can communicate with each other, Weinstock-Rosin's research showed — so by preventing the breakdown of acetylcholine, the progress of Alzheimer's can be stopped, or even halted.

As there currently is no cure for Alzheimer's, Exelon is considered one of the more effective treatments for the disease. Used by patients once a day in patch form, Novartis sold more than $1 billion of Exelon in 2012.

Novatis acquired Exelon from the Hebrew University's technology transfer company, Yissum, which since 1964 has established numerous companies based on research done by Hebrew U scientists. One of which is road safety innovator Mobileye — which recently raised $400 million for its collision protection technology that alerts drivers when they are getting too close to the car in front of them.

Altogether, products based on Hebrew University technologies that have been commercialized by Yissum generate $2 billion in annual sales. Yissum has registered over 8,100 patents covering 2,300 inventions, and licensed out 700 technologies. Yissum-sourced start-ups have partnered with or been acquired by companies such as Syngenta, Monsanto, Roche, Novartis, Microsoft, Johnson & Johnson, Merck, Intel, Teva and many others.

Weinstock-Rosin's current research involves a drug called Ladostigil, a drug to fight mild cognitive impairment (MCI) and early stages of Alzheimer's disease. Weinstock-Rosin and co-developer Prof. Moussa Youdim of the Technion showed that Ladostigil prevents brain degeneration and memory impairment in aged rats. The drug is now undergoing Phase II clinical trials in Israel and Europe for the prevention of Alzheimer's disease.

Weinstock-Rosin and Youdim are working with Israel's Avraham Pharmaceuticals on developing Ladostigil. Yaacov Michlin, who heads Yissum, said that "currently there is no treatment for MCI, and we are very hopeful, based on our promising previous clinical and pre-clinical data, that Ladostigil will become the first drug to alleviate MCI symptoms and prevent progression to Alzheimer's disease, to the benefit of millions of people around the globe."