

Scientists in Israel Develop Groundbreaking Approach to Alzheimer's Treatment

Israeli scientists at Ben Gurion University of the Negev have proposed a new approach for treating Alzheimer's disease by targeting its metabolic components.

Several research groups at the university have been working on solutions to address aspects of metabolic function and to identify how its dysfunction relates to immune response, inflammation and ultimately cell death.

One recent proposal targets the voltage-dependent anion channel-1 (VDAC1), which is the mitochondrial gatekeeper, controlling mitochondrial activity and cell death.

Life Sciences Prof. Varda Shoshan-Barmatz leads a research team which showed that an increase in the amount of VDAC1 protein in the cell leads to cell death and an immune response.

While protein VDAC1's role in heart disease, intestinal disease and autoimmune diseases was already known, the team discovered that the protein was also present, in large amounts, in the brain of a mouse model for Alzheimer's disease.

Shoshan-Barmatz developed a small molecule, VBIT-4, that binds to VDAC1 and able to prevent many of the pathophysiological changes associated with Alzheimer's.

VBIT-4 is able to pass the blood-brain barrier and was able to prevent neuronal cell death, neuro-inflammation and neuro-metabolic dysfunctions associated with Alzheimer's disease.

Another research group at Ben Gurion is also working on a

metabolic aspect of Alzheimer's.

 Dr. Debra Toiber is leading research focused on a protein called SIRT6, which helps maintain proper the function of mitochondria. Its absence leads to many characteristics of neurodegenerative diseases including Alzheimer's.

In the past few years, Israeli researchers have been at the forefront of many recent findings on Alzheimer's disease and have released a variety of Alzheimer's studies and proposed treatments.

Alzheimer's disease is a form of dementia. The disease was first described by the German researchers Alois Alzheimer and Emil Kraepelin. The number of people affected by the disease is projected to reach 135 million by 2050. {eo}

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For more on brain health, you can purchase Dr. Don Colbert's book, "Dr. Colbert's Healthy Brain Zone" [here](#).

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