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New Research Grants from Alzheimer’s Association and Global Down Syndrome Foundation Explore Links Between Alzheimer’s and Down Syndrome

Researchers in CA, KY, SC and Israel Receive $1.2 Million in Jointly Funded Grants

DENVER & CHICAGO [Oct. 29, 2013] — The Global Down Syndrome Foundation, the Alzheimer’s Association, and the Linda Crnic Institute for Down Syndrome have awarded $1.2 million in research grants to five scientists for innovative investigations that explore the development of Alzheimer’s disease in individuals with Down syndrome. The goal is to eventually translate the findings into improved treatments for all people with Alzheimer’s.

The organizations are supporting this growing area of study through a new joint grants initiative called “Understanding the Development and Devising Treatments for Alzheimer’s Disease in Individuals with Down Syndrome.”

“The Alzheimer’s Association is very interested in understanding why people with Down syndrome are at such high risk for Alzheimer’s, and how it relates to other variations of the disease, so that we can identify new therapies to treat Alzheimer’s in both the Down syndrome and typical populations,” said Maria Carrillo, Ph.D., Alzheimer’s Association vice president of Medical and Scientific Relations. “Research in this population may also help us develop predictive tools for Alzheimer’s and design more effective clinical trials.”

“Investing with the Alzheimer’s Association has been so rewarding. The science our joint initiative is funding is of the highest caliber, and each grant approaches understanding, treating or preventing Alzheimer’s in people with Down syndrome from a very different angle. If initial results are promising, we hope that the National Institutes of Health will continue to fund this excellent science,” said Michelle Sie Whitten, executive director of the Global Down Syndrome Foundation.

Alzheimer’s Disease and Down Syndrome
Alzheimer's is a fatal, progressive, degenerative brain disease that causes problems with memory, thinking and behavior. More than 5 million Americans are living with Alzheimer’s, which is the sixth leading cause of death in the United States.

Down syndrome is a genetic disorder whereby a person has three copies of chromosome 21 instead of two. This chromosome also contains the gene that encodes the amyloid precursor protein (APP). APP is
cleaved to form amyloid-beta, which is the primary component of amyloid plaques – a lesion found in the brains of people with Alzheimer’s that many scientists believe is part of the cause of the disease.

According to the U.S. Centers for Disease Control and Prevention, Down syndrome occurs in 1 out of 691 infants in the United States. Due to improved clinical care, people with Down syndrome are now regularly living into their sixth decade of life, causing many to develop dementia due to Alzheimer’s. Autopsy studies show that by age 40, the brains of almost all individuals with Down syndrome have significant levels of plaques and tangles – abnormal protein deposits that are considered Alzheimer's hallmarks. But despite the presence of these brain changes, not everyone with the syndrome develops Alzheimer's symptoms.

One of the many questions researchers hope to answer about Down syndrome is why some people develop dementia symptoms and others don't. Researchers are working to answer a similar key question about those who don't have Down syndrome. This may lead to new opportunities for treatment and prevention of the disease.

**Research Grants Awardees and Their Projects**

In response to a Request for Application, more than 50 applications from around the world were received and vetted by the extensive peer review system at the Alzheimer’s Association with input from the Crnic Institute. The process resulted in five grants, including:

Three grants for senior investigators, each totaling $300,000:

- **Investigator:** Dr. Huaxi Xu, Sanford-Burnham Medical Research Institute, La Jolla, CA  
  **Title:** Roles of miR-155/C/EBPβ/SNX27 pathway in Alzheimer's disease/DS

- **Investigator:** Dr. Ann-Charlotte Granholm, Medical University of South Carolina, Charleston, SC  
  **Title:** Brain-derived neurotropic factor and executive dysfunction in DS

- **Investigator:** Dr. Karen Chang, University of Southern California, Los Angeles, CA  
  **Title:** Functional protein interactions in Alzheimer's disease and DS

Two grants for new investigators, each totaling $150,000:

- **Investigator:** Dr. Donna Wilcock, University of Kentucky Research Foundation, Lexington, KY  
  **Title:** Inflammatory biomarkers to predict transition to dementia in DS

- **Investigator:** Dr. Eitan Okun, Bar-Ilan University, Ramat-Gan, Israel  
  **Title:** Developing a DNA vaccine for Alzheimer's disease in patients with DS

**About the Alzheimer’s Association**

The Alzheimer’s Association is the world’s leading voluntary health organization in Alzheimer’s care, support and research. Our mission is to eliminate Alzheimer’s disease through the advancement of research, to provide and enhance care and support for all affected, and to reduce the risk of dementia.
through the promotion of brain health. Our vision is a world without Alzheimer’s. Visit www.alz.org or call 800-272-3900.

**About the Linda Crnic Institute for Down Syndrome**
The Linda Crnic Institute for Down Syndrome is the first medical and research institute with the mission to provide the best clinical care to people with Down syndrome, and to eradicate the medical and cognitive ill effects associated with the condition. Established in 2008, the Crnic Institute is a partnership between the University of Colorado School of Medicine, the University of Colorado Boulder, and Children’s Hospital Colorado. Headquartered on the Anschutz Medical Campus, the Crnic Institute includes the Sie Center for Down Syndrome at the Children’s Hospital Colorado. It partners both locally and globally to provide life-changing research and medical care for individuals with Down syndrome. It is a research and medical-based organization without political or religious affiliation or intention.

**About the Global Down Syndrome Foundation**
The Global Down Syndrome Foundation is a public non-profit 501(c)(3) dedicated to significantly improving the lives of people with Down syndrome through research, medical care, education and advocacy. Formally established in 2009, the Foundation has the primary focus of supporting the Linda Crnic Institute for Down Syndrome including the Sie Center for Down Syndrome at Children’s Hospital of Colorado. Fundraising and government advocacy that corrects the alarming disparity of national funding for people with Down syndrome is a major focus. The Foundation organizes the Be Beautiful Be Yourself Fashion Show – the single largest annual fundraiser benefiting people with Down syndrome. The Foundation is an inclusive organization without political or religious affiliation or intention.

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