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April 13, 2010

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Roswell Park Researcher Awarded Grant to Identify Causative Genes for Down Syndrome-Associated Mental Retardation

BUFFALO, NY - Eugene Yu, PhD, of the Cancer Genetics Department at Roswell Park Cancer Institute (RPCI), has received a grant for \$250,000 from The Children's Guild Foundation to identify the causative genes for Down syndrome-associated mental retardation. The grant would be used to establish "The Children's Guild Foundation Down Syndrome Research Program."

Down syndrome is the most common genetic cause of mental retardation in children. Children with Down syndrome also are at increased risk for developing megakaryoblastic leukemias. Despite this, relatively little is known of the molecular mechanism of mental retardation in Down syndrome and no treatments have yet been proven effective.

Using the powerful technology of chromosome engineering, Dr. Yu recently identified the disease phenotypes at the physiological and cognitive levels in mice models which mimic mental retardation in Down syndrome patients. He proposes to use this information and chromosome engineering technology to examine the

candidate causative gene for Down syndrome mental retardation. RPCI is in a unique position to pursue this project because Dr. Yu's laboratory is the research group in the U.S. that can perform chromosome engineering with the best efficiency. If his research is successful, it will offer the first scientific basis for a rational design for therapeutic intervention for this specific clinical manifestation of Down syndrome.

Dr. Yu was focused on chromosome engineering technology while serving as an Assistant Professor in the Department of Molecular and Human Genetics at Baylor College of Medicine in Houston, Texas. Since Dr. Yu joined RPCI in 2003, he has been developing mouse models for Down syndrome using this technology. Last year he was awarded a National Institutes of Health RO1 grant to identify the causative gene for Down Syndrome-associated heart defects by using chromosome engineering.

The mission of Roswell Park Cancer Institute (RPCI) is to understand, prevent and cure cancer. RPCI, founded in 1898, was one of the first cancer centers in the country to be named a National Cancer Institute-designated Comprehensive Cancer Center and remains the only facility with this designation in Upstate New York. The Institute is a member of the prestigious National Comprehensive Cancer Network, an alliance of the nation's leading cancer centers, and it also maintains affiliate sites and is a partner in national and international collaborative programs. For more information, visit RPCI's website at <http://www.roswellpark.org>, call 1-877-ASK-RPCI (1-877-275-7724) or email askrpci@roswellpark.org.

Incorporated in 1910, **The Children's Guild Foundation** funds non-profit organizations within the eight counties of Western New York that provide programs and services for special needs children in the areas of healthcare, research, education and therapeutic recreation. The Foundation also seeks to effect change, provide opportunities, and promote inclusion & diversity for children with special needs and their families by advocating on their behalf. The research initiatives funded by The Foundation are concentrated in the area of pediatric developmental disabilities. For more information, visit www.thechildrensguild.org or call 716-362-9650.