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MMRL Selected to Receive Regional Economic Development Grant Funds

Utica, N.Y. – The Cardiac Research Institute at Masonic Medical Research Laboratory (MMRL) recently established a pioneering Organ Bioengineering Program that was selected as a Priority Project by the Mohawk Valley Regional Economic Development Council (REDC). The REDC is part of a new program supported by funds from Empire State Development of New York State which has been enthusiastically endorsed by Governor Andrew Cuomo. The \$300,000 matching grant received by the MMRL is part of an overall strategy to jumpstart and create jobs in the Mohawk Valley and NYS. “This grant opportunity will enable us to foster global collaborations among scientists and physicians and attract additional science, technology and engineering talent to the Mohawk Valley, creating a more technically-competent future workforce in our region.” said MMRL executive director and principal investigator of the grant, Dr. Charles Antzelevitch.

Organ bioengineering will enhance and complement the ongoing research studies of the MMRL’s Stem Cell Center. Using a healthy donated heart, scientists are seeking an effective and efficient means to remove all heart muscle and tissue from the donor organ leaving only intact collagen framework on which to introduce mesenchymal or induced pluripotent stem cells generated from the patient’s own tissue, thus resulting in a genetically compatible cloned heart.

The complex process involves removal of all cells from cadaver hearts, thus generating a collagen scaffold. The patient’s skin cells are then isolated and reprogrammed to generate stem cells, which are introduced into the collagen scaffold framework to grow a new functioning heart. The goal of organ bioengineering is to have the ability to clone a heart or any human body

organ and not have the recipient's body reject the cloned transplanted organ. The ability to use one's own tissues to create the organ eliminates the need for life-long and dangerous immunosuppressant therapies. This technology will not be available for many years, but the technology now in its infancy is rapidly advancing.

According to Antzelevitch, "The MMRL continues to remain at the forefront of research into heart disease on many fronts. This REDC grant allows us to explore a new potential treatment for patients with irreversible heart damage. This field has the potential to change the face of science and medicine as we know it today! With the continued support of the New York State REDC and similar grant initiatives, the MMRL will continue to bring hope that this type of research can provide the treatments and cures of tomorrow for those afflicted with diseases for which no cure is currently available."

Governor Andrew Cuomo recently announced the funding decisions for Round 2 of the Regional Economic Development Council (REDC) initiative. The Mohawk Valley REDC was awarded \$59.7 million for 70 projects. "For the second year in a row, the Regional Councils have been on the forefront of rebuilding New York State's economy," Governor Cuomo said in a press release from his office. "For too many years, top-down economic development policies have failed communities across the state and not truly invested in the unique resources and strengths of each of New York's regions. The strategic plans created during this process have given each region a comprehensive, locally created plan for future economic growth. With this second round of Regional Economic Development Council awards, the state is recognizing the creativity and innovation of each strategic plan, while investing hundreds of millions of dollars to put New Yorkers back to work and to rebuild our economy."

Founded in 1958, the Masonic Medical Research Laboratory (MMRL) has gained international renown and wide acclaim in the scientific and medical community as a leading cardiac research center. The hallmark of the institute is its innovative and imaginative approach to fighting heart disease. The MMRL's legacy of scientific breakthroughs has helped to generate new heart medications and develop diagnostic procedures for the management of cardiac arrhythmias, and has aided in the advancement of life-saving technologies. The MMRL is also one of the top genetic screening centers in the world dedicated to helping families afflicted with sudden death syndromes.

For more information about the MMRL please visit www.mmrl.edu or call (315) 735-2217.

Additional information about the REDC and other funded projects can be found by visiting <http://regionalcouncils.ny.gov/assets/documents/2012REDCbooklet.pdf> and downloading the entire booklet.

