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March 2, 2016

Ms. Kristen A. Frost-Griep
Finance Director
University of Minnesota
AHC Shared Finance MMC 613
420 Delaware St. SE
Minneapolis MN 55455

MRM 2015 BB 008 Final Progress Report

Dear Ms. Frost-Griep

Thank you for the award of the Regenerative Medicine Minnesota Equipment grant which we greatly appreciate. Please find the final progress report for the award in this letter.

Sincerely,

Kah-Whye Peng
Chief Operations Officer
peng.kah@imanislife.com



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**Regenerative Medicine Minnesota
Progress Report
Due: May 30, 2016**

Grant Title: Reporter Gene Services in Support of Regenerative Medicines

Grant Number: MRM 2015 BB 008

Requester: Lukkana Suksanpaisan, Ph.D.

Project Timeline: May 1, 2015 – April 30, 2016

Brief description of project:

Imanis Life Sciences specializes in noninvasive reporter gene imaging and has an exclusive license to commercialize the sodium iodide symporter (NIS) as a reporter gene for high resolution repeat imaging of regenerative medicine therapeutics in small and large animals, thus enabling long term tracking of cell fate over time. Imanis also offers contract research service to the investigator who does not wish to or does not have the expertise to perform these experiments. To meet increasing customer demands and their desire for more sophisticated data analysis, we sought and obtained funding from Regenerative Medicine Minnesota to purchase two pieces of new equipment, an ELISA plate reader capable of multi-modality analysis and a quantitative PCR machine capable of performing multiple gene analysis at the same time on a single sample. The funding that was awarded was \$55,000. The total costs of the machines were \$60,162. The balance was paid using Imanis funds.

The machines have been installed and our personnel trained in the operation of these machines. We have since used these machines extensively, and they are being used to our routine operations of product manufacture, quality control testing and provision of contract research services. More importantly, Imanis was awarded a Phase I SBIR grant from the NIH, National Institute of General Sciences to generate NIS expressing iPCS lines (June 2015 to Dec 2015). The new equipment came in a timely manner for us to perform the extensive screening to evaluate the iPCS clones. We are in the final stage of the grant and are waiting for data from our in vivo experiments and plan to apply for the Phase II part of the award.

Where did this project take place?

The project took place at Imanis laboratory (~750 sq feet), located on the lobby level of the Minnesota Biobusiness Center, Rochester, Minnesota. We rented this space from the city of Rochester and constructed office, conference room and wet lab areas.

People impacted by project and where they are from:

People impacted by project are new hires and current employees of Imanis. They are local Rochester residents and new scientists hired from Maryland and Boston. Our customers include scientists from local research institutes, industry within the USA and an international client.



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What was the outcome of the project? (Did the project work the way you expected it to? What were the successes? What were the failures? How did it impact regenerative medicine in Minnesota?)

The equipment worked very well for us and allowed us to pursue more advanced science and provide a wider repertoire of services. Our product lines (cell lines and lentiviruses used for marking cells), rely on the TECAN for accurate quality control analysis. To ensure that the cells we use and sell are of the highest quality, all are tested for mycoplasma contamination using the Lonza MycoAlert™ Kit. Completion of the MycoAlert protocol involves taking two separate bioluminescence readings from the cell sample, which we accomplish using the TECAN. In these different ways, the TECAN has become an invaluable tool in the development of most of our product lines including, plasmids, lentiviruses, and cell lines. As we work to develop SBIR funded iPSCs expressing reporters we have frequently needed to isolate and quantitate genomic DNA from the cells in order to determine if our reporters had inserted at the proper genomic location. We have also used isolated and quantitated mRNA to assess the expression of our reporter genes in the transfected iPSCs. Without these machines in our labs, we would not have been able to do the work or SBIR funded research. Unfortunately, the city of Rochester does not have any wet lab space to rent or any incubator space for new business such as ours. Hence, we have to build whatever we need and try to purchase any equipment we need, using any resources we can find. So this funding is greatly appreciated and frees up funds for us to employ new staff, as well as allow us to bid for new contracts.

Please list any of the following that have resulted from your Regenerative Medicine Minnesota grant funding:

- Publications and/or manuscripts submitted for publication. Not applicable.
- Disclosures/patents. Not applicable.
- Other grant applications and/or awards. Phase II SBIR grant application.

Responsible Spending:

Please let us know how you spent the money. Any unspent funds must be returned.

The total allocated award of \$55,000 was spent and used to buy two pieces of new equipment.

The TECAN ELISA plate reader cost \$21, 417 and the Roche Lightcycler is \$38,745.