



April 16, 2018

Mrs. Elisabeth Linton
The Sanfilippo Children's Research Foundation
41 Gwendolen Avenue
Willowdale, Ontario
M2N 1A1

Dear Elisabeth,

Thank you to you and the board of The Sanfilippo Children's Research Foundation for your consideration of a \$300,000 pledge, matched by SickKids, to purchase an analytical ultra-performance chromatography coupled with tandem mass spectrometry—UPLC-MSMS.

At SickKids, Dr. Andreas Schulze's research group is advancing promising work to find a cure for Sanfilippo syndrome. He and his team are involved in a highly-anticipated drug discovery research project that will screen thousands of chemical compounds for their potential to treat Sanfilippo syndrome.

Researchers will develop a cell model that will allow them to screen a collection of more than 6000 compounds, and then use computer modeling to narrow down over seven million potential drugs. Promising compounds will be tested and screened against approved drugs—shortening the time it takes to move discoveries into the clinic. The project will focus on a particular process inside the cells involved in causing Sanfilippo syndrome and other MPS disorders.

As you know, Sanfilippo syndrome is caused by the build-up of sugar chains called glycosaminoglycans or 'GAGs' within the cells due to a lack of certain enzymes to break them down. This has catastrophic consequences for the cells, especially those in the brain. Rather than replacing the missing enzymes, Dr. Schulze and his team are looking for drugs to reduce the production of the harmful sugars in the first place. To do this, they will search for medication that could target an enzyme essential for the production of toxic 'GAGs'. This approach could be effective for Sanfilippo types A, B, C, D and E and also MPS I, II and VII (Hurler, Hunter and Sly Syndromes).

Critical to the success of the project will be validating the effectiveness of promising drugs. The ability to analyze individual GAG species would allow the researchers to find treatments specifically tailored for each of the diseases.

With your support of \$300,000, matched by SickKids, Dr. Schulze will be able to purchase specific equipment: the analytical ultra-performance chromatography coupled with tandem mass spectrometry—UPLC-MSMS. The analytical UPLC-MSMS will play a crucial role in this project, allowing for ‘phenotypic screening’, which is a cornerstone of fast and successful transition from drug discovery to the clinic.

In recognition of your donation, we will name Dr. Schulze’s laboratory bench in the Peter Gilgan Centre for Research & Learning as well as include The Sanfilippo Children’s Research Foundation as a Benefactor on our Donor Wall and in the SickKids Foundation Annual Report.

Thank you, again, for your consideration. Dr. Schulze and I would be happy to answer any questions about this request.

Sincerely,



Colin Hennigar

Vice President, SickKids Foundation
416-813-1211