

October 2014 ~ Development of a diagnostic test and newborn screen for Niemann-Pick C disease

Lay Summary

A major barrier to delivery of effective treatment for NPC disease has been significant delays in diagnosis (> 5 years) due to the lack of an inexpensive, reliable and easy to use test for diagnosis. We have developed a highly sensitive and specific clinical diagnostic assay for NPC disease based on an oxysterol biomarker. This assay is at various stages of implementation in nearly a dozen laboratories worldwide and is replacing filipin staining of fibroblasts as the diagnostic standard. Our continued biomarker efforts have led to discovery of an even more sensitive blood marker that may have significant advantages over the oxysterol marker, including ease of detection and simplification of the diagnostic assay. The latter will help with dissemination of the assay into clinical laboratories and accelerate adoption of this new blood test. This new blood marker also has significant potential to facilitate development of a newborn screen. A newborn screen would enable for the first time routine initiation of drug therapy in pre-symptomatic NPC patients, the group that would benefit the most from early medical treatment.