

Anthony Giordano

Dr. Wei-Chang Lin

*Novel In-Vitro Epilepsy iPSC Model*

The main focus of this ARCH research project is to create a novel in-vitro epilepsy model will using iPSC techniques. Neural tissue will be collected from both epileptic and control rats and then the neural tissue will be induced to pluripotent stem cells and regrown in a petri dish. It has been hypothesized that the regrown stem cells will have the same genetic characteristics as the host cells they come from. To confirm this both Western Blot and RTPCR will be performed on both the host tissue and the newly grown astrocytes and neurons (of both epileptic and control rats) to see if they share the same genetic/protein expression characteristics. This new epilepsy model, once established, will be used to facilitate the investigation of the correlation between epilepsy and genetic abnormalities in both neurons and astrocyte cells, critical to the development of better treatments of epilepsy.