



COBRE Investigators

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Title of project: Assessing Mechanisms of Lithium as a Potential Therapeutic Compound in Parkinson's Disease Models

Summary:

The potential mechanisms of lithium for protecting dopaminergic neurons in PD *in vitro* and *in vivo* mouse models have been studied in my own lab and my previous lab. Assessment of the potential mechanisms of lithium in protecting dopaminergic neurons against oxidative stress has been performed with my students (see a table below). We are confirming our hypotheses proposed and actively collecting data in Western Blot and real-time qPCR using *in vitro* samples.

Testing the hypothesis that lithium induces neurogenesis/cell proliferation in the subventricular zone (SVZ) and assessing the potential roles of those newly born cells in the PD mouse model. Currently we are working on establishing our mouse room and getting a full permit of IACUC at DSU. My collaborator, Dr. Farah is preparing for setting up mouse cages to feed lithium and inject BrdU.