Course Objectives
Marshall Hunter Joyce

Main objectives are:

1. To collect and evaluate background information on the various genetic causes of hereditary spastic paraplegias (HSPs). More specifically a discussion will be presented about Mast syndrome and the known features of maspardin and its potential functional roles. A thorough background on what is known about RTN4A will be addressed. Lastly topics will be addresses on how RTN4A may be linked to the disease.

2. Finalize writing Materials and Methods.

3. To collect data regarding expression of RTN4 in vitro and in vivo.

4. To collect data regarding transfection of pCMV-RTN4 full-length and deletion constructs into Cos-7 and/or HeLa cells including rates of expression.

5. To collect data regarding immunoprecipitations of transiently transfected and endogenous maspardin and RTN4.

6. To test for direct maspardin-RTN4 interactions via GST-pulldowns.

7. Investigate maspardin-RTN co-localization in MEFs and neurons cultures via immunocytochemistry.

8. Create relevant figures and figure legends.

9. To finalize comprehensive result and discussion sections including literature evaluated in point 1, and future directions of the project.

10. Defend the Honors Thesis

Timetable for Written Documents:

Essay (about 20 pages) on HSPs, mast syndrome, maspardin and RTN4

September 1st

Detailed Protocol and Figures with Legends

October 1st

Final Product

November 1st

Defense

December 1st