**Feasibility assessment**

**I will be performing all the “wet-lab” work related to this proposal at Stanford University.**

The ophthalmology and neuroscience programs at Stanford are consistently ranked among the best in the country. Located in Palo Alto, CA, Stanford University is situated in the heart of Silicon Valley. The Department of Ophthalmology at Stanford has excellent facilities for basic and clinical research with state of the art equipment, staffed by the best clinicians and scientists. The department works to advance patient care through research into the origins of ocular diseases and through the development of novel therapeutics and diagnostics.

**Laboratory:** The sponsor’s laboratory (Jeffrey Goldberg) is located on the Stanford Medical School campus at 1651 Page Mill Road, Palo Alto 94304, Room 2200. The sponsor has approximately 2000 ft2 of “open” laboratory space including rooms for cell culture, microscopy, and electrophysiology as well as an animal dissection suite. This “open” space promotes communication between lab members and surrounding groups. Our immediate neighbor is Dr. Sergiu Pasca with expertise focusing on deciphering the molecular and cellular mechanisms of neuropsychiatric disorders using cerebral organoids model. In addition, Dr. Daniel Palanka is the PI of Hensen Experimental Physics Laboratory at Stanford Ophthalmology. We will have Drs. Pasca and Palanka as consultants while developing retinal organoids model and laser axotomy device.

**Clinical:** Although this work will not require any patient-related contact, it is worth noting that the Byers Eye Institute at Stanford is a highly rated clinical ophthalmology facility with dedicated spaces for patient care and patient research. The long-term goal from this proposal is to develop novel translational technologies and approaches to treat optic neuropathies.

**Other:** The NIH funded Center for Neuroscience Research Facility at Stanford (including Microscopy, Gene Vector and Viral, and Behavioral Functional Neuroscience cores) provides a variety of services ranging from viral production to imaging to behavioral and functional validation. Additional cores facilities are also available to the PI and provide further support for tissue processing, cell sorting, and genomics as well as computational and statistical analysis.

**Department of Ophthalmology Core facilities:** Each investigator has networked Apple and/or PC compatible computers for data analysis, manuscript preparation, and database access. Each staff research associate has a computer for personal use. The research staff and PI also have access to MATLAB, other necessary software. Our computer support group consists of two full-time information technology specialists, one full-time hardware/software expert and a part-time student assistant.

**TIMELINE**

Although I have proposed an ambitious set of experimental aims, I will cooperate with colleagues in the lab and experts on campus to generate the RO model and laser axotomy technique needed for these experiments. I have already begun establishing some of the experiments proposed. Aim 1 would commence immediately and take approximately 1 year. Aim 2 would be dependent on the time needed for optimizing laser axotomy technique, maybe about 1 year. However, the timeline could be overlapping for aim 1 and 2 during the waiting time for RO formation.