

Neuroprotection Laboratory

Claire Mitchell, PhD

University of Pennsylvania
Department of Ophthalmology
612 Goddard Laboratory
3700 Hamilton Walk
Philadelphia, PA 19104-6017
Phone: (215) 573-2176
Fax: (215) 573-5851

Alan M. Laties, MD

University of Pennsylvania
Department of Ophthalmology
D603 Richards Building
3710 Hamilton Walk
Philadelphia, PA 19104-6075
Phone: (215) 898-6508
Fax: (215) 898-0528

The Neuroprotection Laboratory is chiefly concerned with the neuroprotection of the ganglion cells of the retina. Ganglion cells give rise to axons that collect at the optic nerve head and leave the eye to form the optic nerve. These cells and their axons are susceptible to glaucoma and optic neuritis, as well as several neurological disorders. The chief focus of the laboratory is the characterization of susceptibility and the protection of these nerve fibers.

Directors

- Claire Mitchell
Associate Professor of Physiology
- Alan Laties
Professor of Ophthalmology

Staff

Includes four postdoctoral fellows.

Recent Research

A series of projects have been undertaken to characterize the release of ATP by the retina and response to a step increase in intraocular pressure. When this occurs ganglion cell death can ensue. Evidence has been developed that the released ATP is toxic to ganglion cells. Specifically, ATP acting on purinergic receptor leads to a lethal calcium influx to ganglion cells. Recently the laboratory was able demonstrate that this toxic effect can be blocked by a purinergic receptor antagonist.