

## TAMÁS ATLASZ



University of Pécs  
Faculty of Sciences  
Institute of Biology

Address: Ifjúság útja 6., H-7624 Pécs, Hungary

## RESEARCH AREA

Retinal diseases are among the leading causes of blindness. Therefore, any experimental approach that leads to a better understanding of the molecular background of these diseases, as well as the testing of groups of molecules that can reduce or potentially prevent damage, is a priority research activity. Our research focuses on the study of two posterior segment diseases of the eye (glaucoma and diabetic retinopathy) which are leading causes in the development of blindness. Our goal is to develop a new effective treatment strategy for the previously mentioned ophthalmic diseases by using different neuroprotective pharmacons, with each having distinct target points that reduce the development of the disease.

## TECHNIQUES AVAILABLE IN THE LAB

In our ophthalmic research, we use state-of-the-art technology in rodents in vivo, such as optical coherence tomography (OCT). OCT is suitable for comprehensive examination of the posterior and anterior segments of the eye. It also allows us to measure intraocular pressure, examine the fundus with funduscopy, and analyze vision via the electroretinographic method. Additionally, our laboratory routinely uses histological, immunohistochemical, and molecular biological methods (western blot, ELISA, apoptosis, and cytokine array kit).

## SELECTED PUBLICATIONS

Patko, E., Szabo, E., Toth, D., Tornoczky, T., Bosnyak, I., Vaczy A., **Atlasz, T.**, Reglodi, D. (2022) Distribution of PACAP and PAC1 Receptor in the Human Eye, **J Mol Neurosci**

Kvarik, T., Reglodi, D., Werling, D., Vaczy, A., Kovari, P., Szabo, E., Kovacs, K., Hashimoto, H., Ertl, T., Gyarmati, J., **Atlasz, T.** (2021) The Protective Effects of Endogenous PACAP in Oxygen-Induced Retinopathy, **J Mol Neurosci** **71**: 2546–2557.

Szabó, E., Patkó, E., Váczy, A., Molitor, D., Csutak, A., Tóth, G., Reglődi, D., **Atlasz, T.** (2021) Retinoprotective Effects of PACAP Eye Drops in Microbead-Induced Glaucoma Model in Rats, **Int J Mol Sci** **22**: 16.

Kovacs, K., Vaczy, A., Fekete, K., Kovari, P., **Atlasz, T.**, Reglodi, D., Gabriel, R., Gallyas, F., Sumegi, B. (2019) PARP Inhibitor Protects Against Chronic Hypoxia/Reoxygenation-Induced Retinal Injury by Regulation of MAPKs, HIF1 $\alpha$ , Nrf2, and NF $\kappa$ B. **IOVS** **60**: 1478–1490.

**Atlasz, T.**, Werling, D., Song, S., Szabo, E., Vaczy, A., Kovari, P., Tamas, A., Reglodi, D., Yu, R. (2019) Retinoprotective Effects of TAT-Bound Vasoactive Intestinal Peptide and Pituitary Adenylate Cyclase Activating Polypeptide. **J Mol Neurosci** **68**: 397–407.