

February, 2017

The Goldschleger Eye Institute The Retinal Research Laboratory Dr. Ygal Rotenstreich, MD

The Goldschleger Eye Research Institute is the largest academic ophthalmic care and research center in Israel with over 40,000 admissions yearly and a reputation for excellence in eye care, research and teaching. The institute brings together physicians and scientists striving to improve the lives of patients suffering from blinding diseases through novel innovations and scientific advances. The location of the research institute as an integral part of the clinical care center, enables the institute to offer a **“one stop shop” for ophthalmic research services from basic science to translational and clinical trials at one site.**

The Institute includes a state of the art clinical facility and an animal facility for ophthalmic basic and translational research combined with highly trained technical staff and interdisciplinary research:

SPF Animal facility with a large selection of ophthalmic in vivo animal models

We offer a large number of animal models for ocular diseases, including rabbit models of glaucoma & dry eye, mouse, rat & rabbit models of glaucoma, AMD and genetic retinal dystrophies, and mouse models for cancer eye melanoma, genetic retinal dystrophies and Alzheimer.

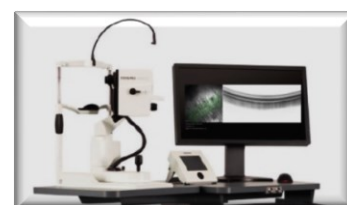


An operation room for small animals – A surgical facility with 3 surgical tables and surgical microscopes (Leica), Argon laser and a technical team highly experienced in anesthesia and ophthalmic surgical procedures.

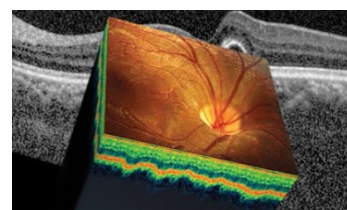


SPECTRALIS OCT PLUS BluePeak MultiColor powerful imaging system

This system enables our customers to obtain noninvasive high-resolution images of the anterior and posterior segments of the eye and monitor the health of the cornea, retina, retinal epithelium, blood vessels and the optic nerve in large and small animal models. The combination of MultiColor and SD-OCT in a single device is a new diagnostic platform for simultaneous fundus and cross sectional imaging of the retina.

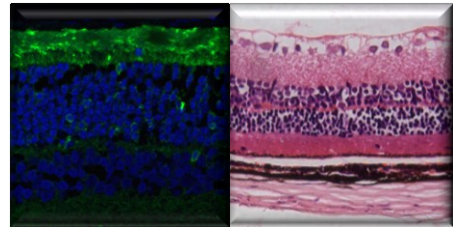


Simultaneous imaging with multiple laser colors selectively captures and portrays diagnostic information originating from different retinal structures within a single examination. The BluePeak module enables capturing fundus autofluorescence (FAF) images, providing both structural and metabolic information about the retina. Furthermore, our system is equipped with the TruTrack™ active eye tracking creates a detailed retinal map each time a patient / an animal is imaged. The AutoRescan™ feature uses this map to automatically place follow-up scans in precisely the same location as the baseline scan, with a 1 micron measurement reproducibility that enables the researcher to observe true changes

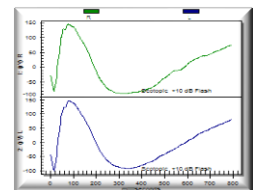


over time rather than change resulting from alignment error. The system enables our customers to track disease progression in their animal models, evaluate the safety and efficacy of tested therapies in single animals, significantly reducing the number of animals required and the animal-to-animal variability. Importantly, as this system is used in the clinic, it facilitates translation of the results obtained in the animal models directly into clinical trials.

- **On-site ophthalmic histopathology services** – We provide services for paraffin embedding, frozen sections, cutting and staining as well as immunohistochemical and immunofluorescence staining and imaging.



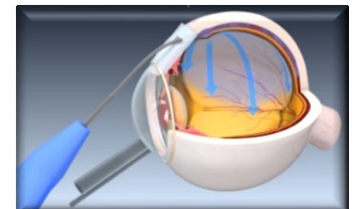
- **Animal Electroretinogram (ERG) services**– for objective evaluation of retinal function in animals we offer ERG services. The laboratory is equipped with a clinical grade Multi-Focal ERG 3000 visual electrodiagnostic system (LKC Technologies, Gaithersburg, MD) and technicians highly trained in animal ERG.



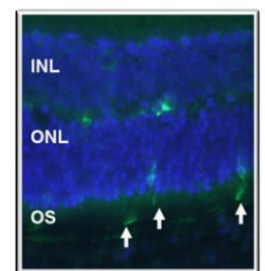
- **Animal visual acuity testing** – We offer several visual tests (behavioral studies) for rodents that complement the ERG and histology analysis for comprehensive analysis of therapeutic effects and safety



- **Posterior segment drug delivery services** – We developed a new injector systems and surgical techniques for delivering pharmaceuticals and cell-based therapies to the posterior segment. We offer services for drug/cell therapy delivery, both the classical intravitreal injection and the posterior segment delivery, in a wide selection of animal models with complementary evaluation of treatment safety and efficacy.



- **Organotypic retinal cultures for drug screening** – we developed organotypic cultures of retina from transgenic rodents for screening of treatments for retinal degeneration. These cultures enable fast screening of novel therapeutics using small amounts of the tested drugs.



- **Ophthalmic testing for clinical trials (GCP, JCI) –**

As the largest academic ophthalmic care and research center in Israel, the institute has led hundreds of clinical trials with pharmaceutical and clinical devices companies at a GCP level. Sheba medical center complies with the Joint Commission International (JCI) Accreditation Standards for clinical trials. We offer services of application for MOH approval and a comprehensive setup for clinical trials, including visual acuity, perimetry, ERG, VEP, OCT, fundus imaging and ICG imaging of blood vessels as well as novel objective perimetry developed in our laboratory based on pupillary responses.

