Adaptive optics imaging beyond photoreceptors



## **TFI**<sup>TM</sup>

Transscleral flood illumination module for rtx1 camera

Photoreceptors

Retinal pigment epithelium

## Adaptive optics imaging beyond photoreceptors

TFI is an add-on module that extends the imaging capability of the rtx1 Adaptive Optics Retinal Camera. It provides a tool for investigating retinal anatomy, pathology and therapy at the microscopic scale - beyond photoreceptors.

When rtx1 acquires images using the TFI module, it delivers light through the eye sclera instead of the pupil, and thus exposes the retina with oblique light. This transscleral illumination enables the visualization of small retinal structures that are usually invisible in adaptive optics images, such as the retinal pigment epithelium.



**AMD: Geographic atrophy with foveal sparing**<sup>[1]</sup> The TFI image reveals pigment redistribution in the spared foveal area.

**99** Successfully imaging photoreceptor and RPE cells has become essential in an era of gene therapy and complement modulation.

Prof. Stanga, The Retina Clinic London, 2022.

## Upgrade your rtx1

Most existing rtx1 units can be upgraded with TFI.

**7FI could be a valuable** addition to a conventional trans-pupillary floodillumination AO camera, not only for seeing the RPE cells, but also for detecting clinical features such as pigment migration.

Gocho et al., Euretina 2021.



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**Specifications** 

Illumination wavelengths

Optical resolution on the fundus<sup>2,3</sup>

0459

Imaging field of view<sup>2</sup>

Contents

## **TFI optional module**

Illumination module with 2 clip-on lenses, modified housing, internal electronics and cabling, upgraded software

Transscleral: 810 nm Standard transpupil: 850 nm

4° x 4°

250 line pairs per millimeter

Other specifications are available in the product brochure. Link to the rtx1 product webpages



rtx1 with TFI is certified in the European Union.

In other territories, it is an investigational device for research use only.

- 1. Courtesy of Quinze-Vingts National Eye Hospital, Paris, France.
- 2. Some specifications are dependent on several factors including but not limited to: ocular biometry, pupil diameter, optical defects, ocular media transparency.
- 3. The system can image line pairs of  $2\mu m$  in line width.