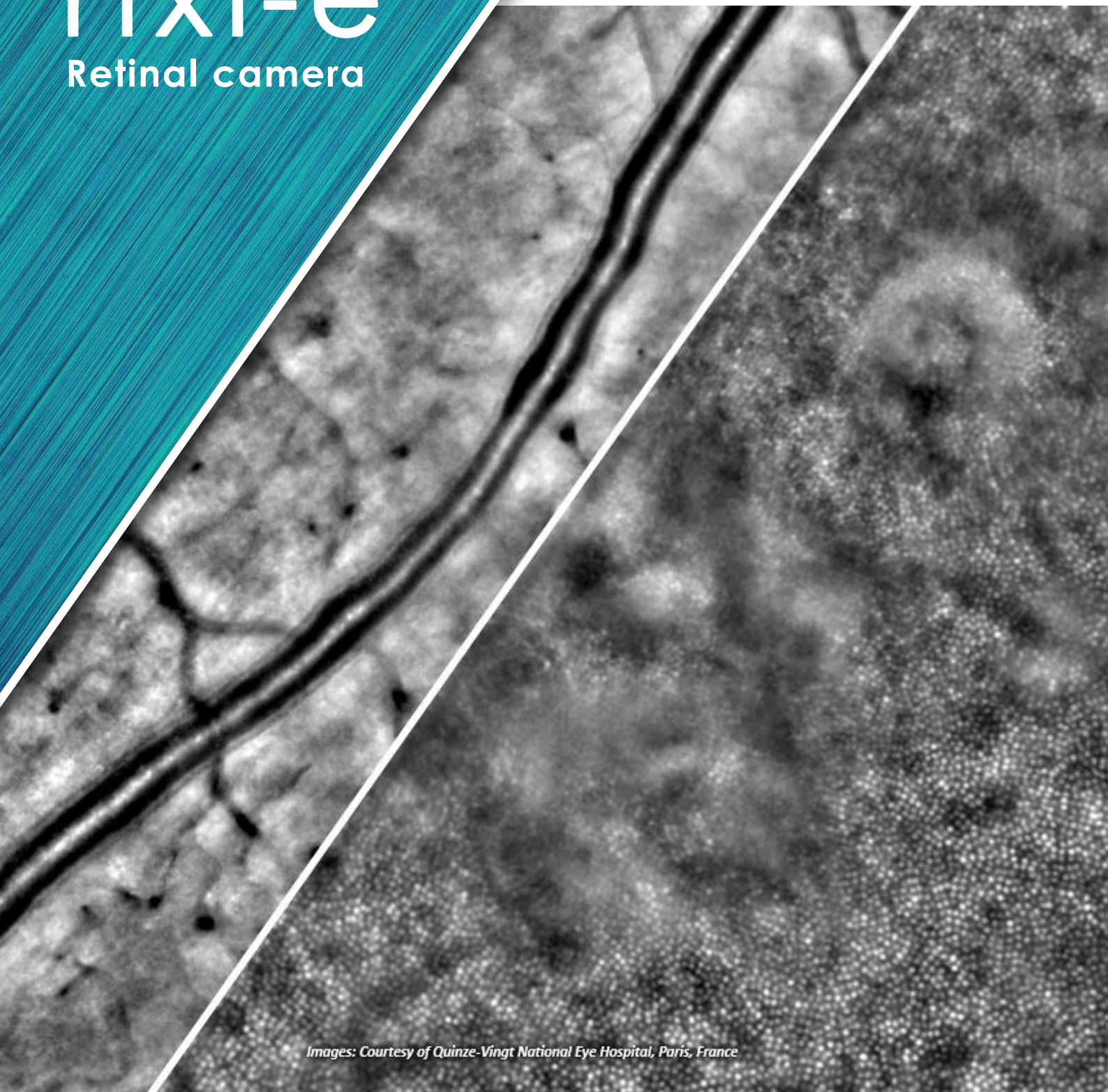
Cellular and microvascular assessments for clinical studies and trials

imagine eyes®

Fighting blindness with advanced retinal imaging

rtx1-e™

Retinal camera



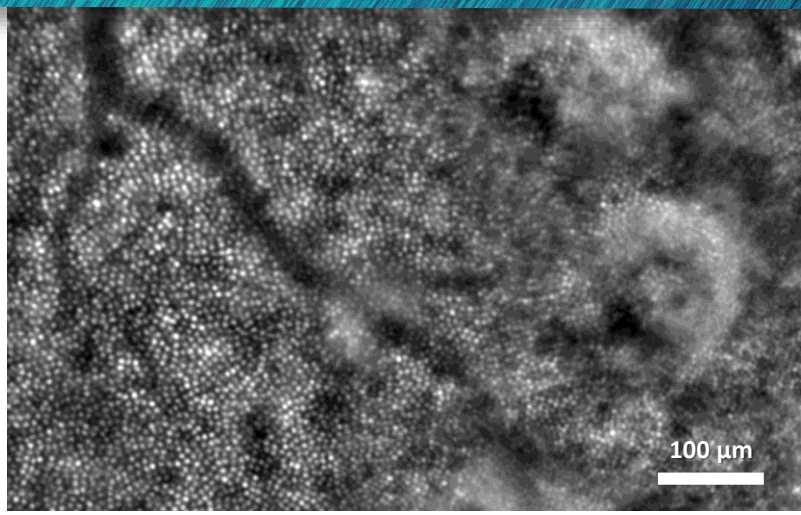
Images: Courtesy of Quinze-Vingt National Eye Hospital, Paris, France

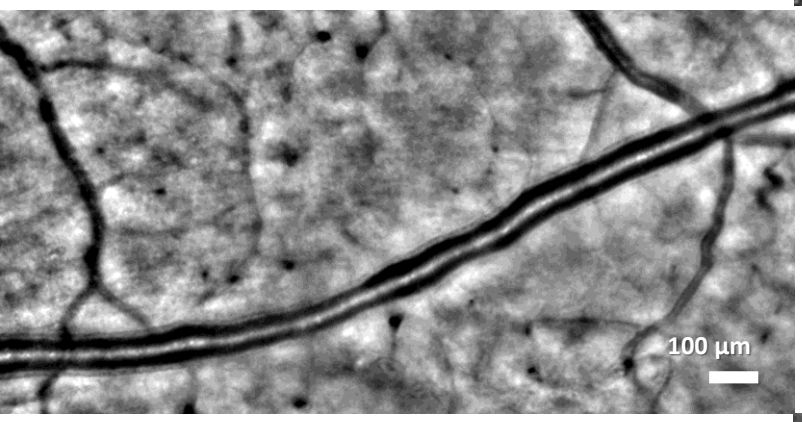
rtx1-e

Track disease at the microscopic scale in the retina

Imaging at the cellular level

When using the rtx1 Retinal Camera, you examine the retina at a scale where individual cells are visible. It reveals parafoveal cone photoreceptors as well as other microscopic retinal structures that cannot be seen with conventional techniques, thanks to Adaptive Optics (AO) technology.



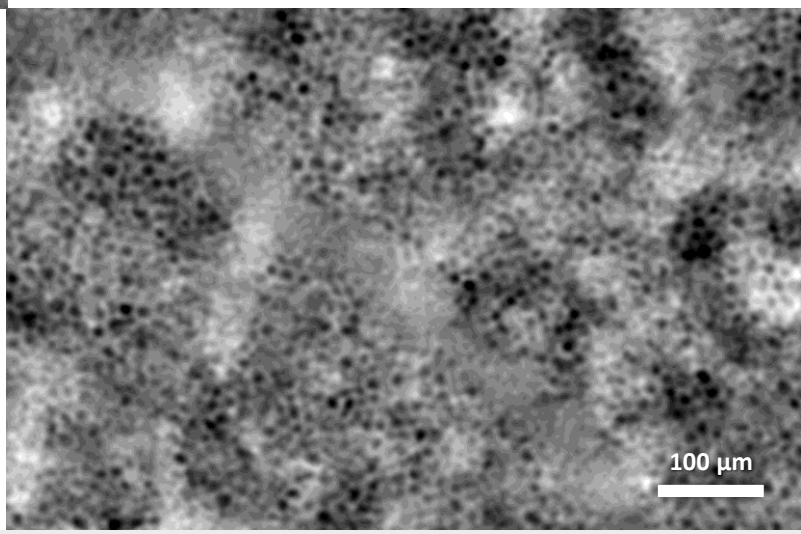


Microvascular imaging

The rtx1 enables visualizing the microscopic walls of retinal arterioles non-invasively. Focal narrowing, perivascular sheathing, micro-hemorrhages and micro-aneurisms are also visible without using contrast agents.

Retinal pigment epithelium imaging

The **TFI add-on module**, available as an upgrade, extends the imaging capability of rtx1 for investigating retinal anatomy, pathology, and therapy. Using transscleral illumination, rtx1-TFI enables visualizations of otherwise invisible microscopic detail in the retinal pigment epithelium, as well as pigment redistribution in retinal degeneration.



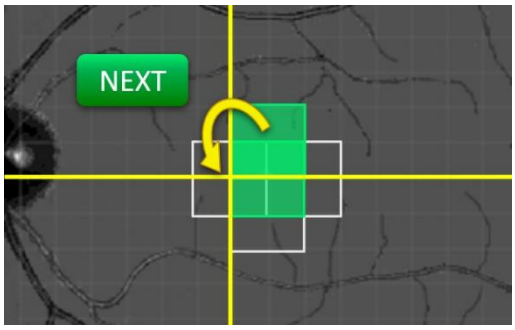
2s **Acquisition time**
No compromise on patient comfort

250+ **Publications**
Extensively validated technology

Reference device

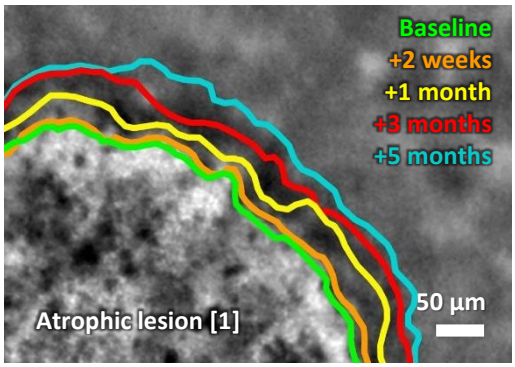
The rtx1 stands out as the most widely-used AO imaging device throughout the world. Cleared by regulatory authorities in several countries, it has become the reference device for cellular-level retinal assessments in clinical research, and enabled extensive clinical knowledge and findings in a large variety of diseases that impact the retina.

Images: courtesy of Quinze-Vingts National Eye Hospital, Paris, France



Fast protocol workflows

Designed in collaboration with clinicians, the rtx1 enables comfortable examinations and a high patient throughput. The **Protocols** functionality guides users through every step of virtually any imaging procedure. It enables accelerating and standardizing AO examinations in multicenter studies.

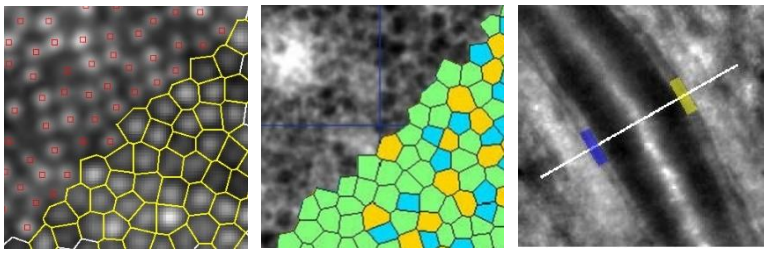


Tracking microscopic progression/regression

By design, the rtx1 delivers images that are free from motion distortion. Building on this advantage, rtx1 software makes it easy to capture multiple regions of interest through different visits, and automatically registers follow-up images. This allows tracking minute changes in groups of cells, vessels, or lesions over time.

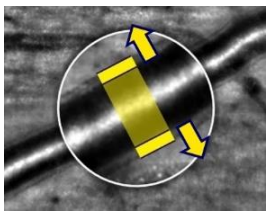
Cellular & vascular biomarkers

With **AOdetect** application, rtx1 delivers an array of candidate biomarkers for assessing the distribution of parafoveal cone cells, and for rtx1-TFI, RPE cells. It also provides non-invasive analysis of the wall morphology of blood vessels with micrometer precision.



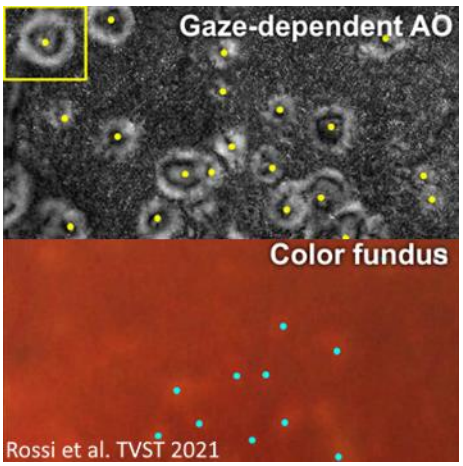
Explore neurovascular coupling

Flicker stimulation enables micron-precision assessments of neurovascular response of small blood vessels.



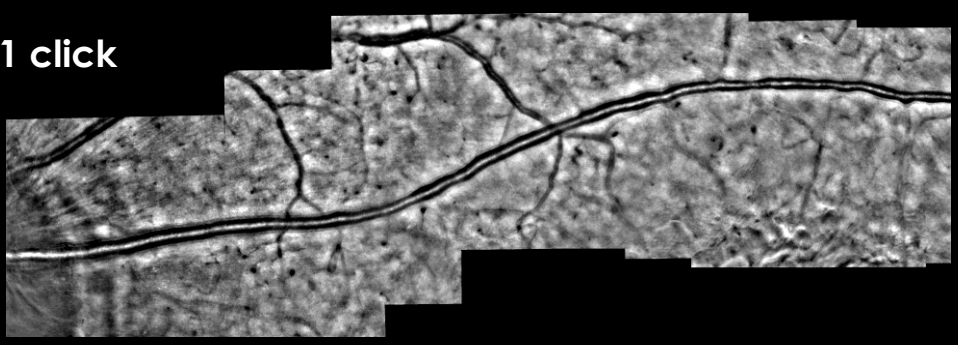
Deeper insight into retinal microstructure

Directional imaging procedures streamlines the investigation of alterations in the reflectance of retinal microscopic structures, such as for visualizing small drusen with enhanced contrast [2].



Large field AO images in 1 click

Effortlessly assemble multiple rtx1 images into high quality montages using the first-in-class automated montage software **i2k Retina AO**™ by DualAlign®, compatible with rtx1.



[1] Geographic atrophy case. Courtesy of Quinze-Vingts National Eye Hospital, Paris, France. [2] Reference: Rossi et at. TvST 2021.

rtx1-e

Track disease at the microscopic scale in the retina

SPECIFICATIONS	rtx1-e retinal camera
Imaging type	En-face reflectance imaging
Detection type	Low-noise CCD camera
Illumination	Near infrared LED Standard transpupil 850 nm
Exposure time	< 10 ms
Imaging field of view[1]	4° x 4°
Fixation stimulation range	H ± 14.4° / V ± 10°
Camera pixel pitch on the fundus[2]	1.1 µm
Optical resolution on the fundus[1,2]	250 line pairs per millimeter (lppmm)
Adaptive optics control	Fully automated Resistant to blinking and movement
Depth focusing range[1]	1600 µm
Pupil diameter	≥ 4 mm
Refractive error compensation	-12 to +6 D
Total footprint	137 x 53 x 132-162 cm

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CE 0459

rtx1 is a certified medical device of class IIa in the European Union. **rtx1** is an approved medical device in Japan, China and Korea.
In the USA, **rtx1** has not received FDA clearance; it is an investigational device that requires Institutional Review Board (IRB) oversight. For use by trained healthcare professionals only.

rtx1 with AOdetect is certified in the European Union, Japan and Korea. **rtx1 with TFI** is certified in the European Union.
In other territories, rtx1 with **AOdetect** or **TFI** are for research use only.

i2k is not part of the rtx1 product, it is for research use only.

1. Some specifications are dependent on several factors including but not limited to: ocular biometry, pupil diameter, optical defects, ocular media transparency.
2. The system can image line pairs of 2 µm in line width.