

Phoenix Micron IV Retinal Imaging Microscope

The Micron IV Retinal Imaging Microscope delivers precision in vivo imaging capability for mice and rats with stunning quality bright field images. Access to a range of fluorophores has been demonstrated including GFP, YFP, CFP, and mCherry. Fluorescein and Evan's Blue angiograms can be obtained which show the flow of fluorescein-stained red blood cells in the capillaries.

The generation four Micron technology reflects Phoenix Research Labs' continuing commitment to innovation. Incorporated in this advancement is a custom built three-chip CCD camera with several performance enhancements, improvements in the ergonomic design, and provision for four filter positions.

Improved sensitivity and color saturation

A new technology three-chip CCD provides improved sensitivity and better signal processing. Imaging of yet fainter fluorophores and color saturation is greatly improved.

Near infrared (NIR) imaging

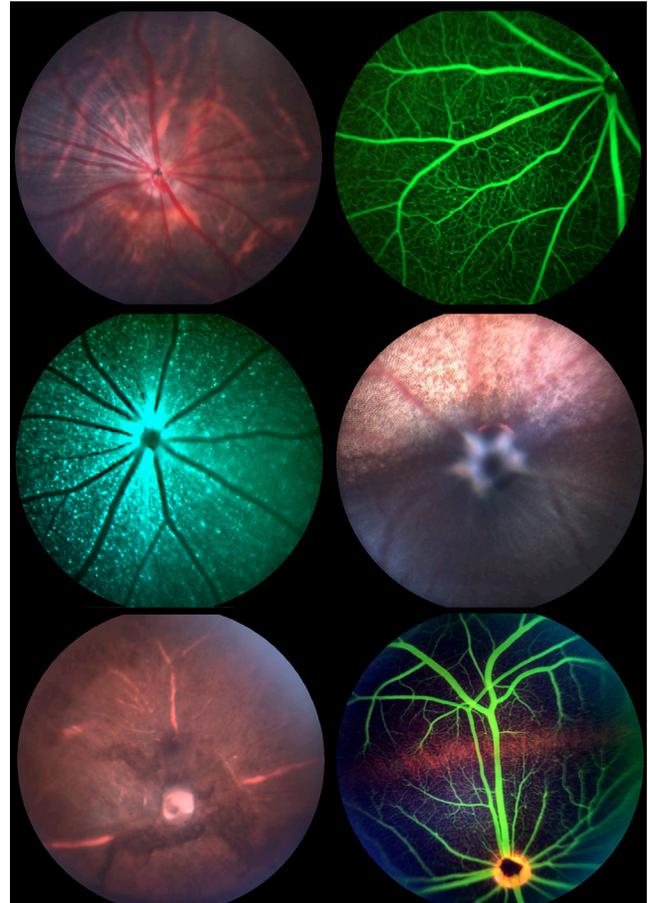
Through custom design is the capability to image in the near infrared, between 700 and 900 nm. This feature provides access to other fluorophores and potentially ICG angiograms. It is a key technical advancement for the auxiliary Phoenix Image-Guided Focal ERG system. Retinal features are visible at 850nm so that eye can be positioned to the area of interest while maintaining dark adaptation for scotopic testing.

Improved versatility and ergonomics

The Micron IV provides imaging of both the mouse and rat retina through objective lenses optimized for each animal. The new system has additional ergonomic features which make an already easy to use research tool even more convenient.

In vivo validation

Longitudinal research depending on retinal histology alone is a thing of the past. Complete a comprehensive in-vivo study in just minutes. Conveniently screen large numbers of animals, save costs and strengthen the quality of research through longitudinal imaging. Become empowered with the Micron IV to make new discoveries into retinal disease and development.



Bright field images (left to right): rat bright field image, mouse fluorescein angiogram, mouse CFP, zebrafish bright field image, mouse with retinal degeneration, gerbil bright



Phoenix Micron IV Retinal Imaging Microscope with animal stage.

Phoenix Micron IV fuels research

The Phoenix Micron IV, designed specifically for laboratory animals, delivers a unique proposition for image-guided eye research. The platform supports a family of additional turnkey research instruments including Image-Guided Laser, Slit Lamp Imaging, Focal ERG and Image-Guided OCT. Unlike stand-alone adaptations of human instruments, these range of products interface directly with the Micron IV to support image-guided comprehensive studies without requiring use of additional limited laboratory bench space.



Phoenix Micron IV Retinal Imaging lenses for mice and rats.

Powerful, validated, accepted

The Phoenix Micron technology has contributed to over 125 research centers in Asia, North America and Europe and over 40 publications in print. With its broad range of applications including basic research, toxicology, pharmaceutical efficacy testing and neurological research, the Micron retinal imaging microscope is sure to continue to fuel scientific discoveries fulfilling the Phoenix mission to contribute to the war on blindness through technology innovations.

PHOENIX MICRON IV RETINAL IMAGING MICROSCOPE

SPECIFICATIONS

Retinal imaging resolution	4 μm or better (mouse) 8 μm (rat)	
CCD pixel resolution	2 μm (mouse) 4 μm (rat)	
CCD sensor	Low noise 3 chip CCD with extended imaging in the near infrared (NIR)	
Resolution	1024x768 pixels	
Depth of focus	20 μm	
Range of focus	Retinal surface to crystalline lens	
Field of view	50 degrees; 1.8mm (mouse) 3.6mm (rat)	
Signal to noise ratio	60db	
Image format	AVI, BMP, JPEG, PNG, Tiff	
Imaging Modalities	Bright Field	450-650 nm
	NIR	up to 900 nm
	Fluorescein Angiography	469-35 nm
	Fluorescent imaging of arbitrary fluorophores	
Animal stage	3 degrees of rotation and 3 degrees of translation	
Objective lenses	Separate objective lenses for mouse and rat	
Camera head stand	Rack and pinion motion along axis, 2 axis rotation	
Exposure time	up to 100x long exposure	
Filter wheels	2 wheels with 4 slots (excitation and emission)	
Light source	Xenon bulb	
CPU	Intel Core i7 3.1GHz w/ MS Windows 7 Professional and proprietary imaging software	
DDR3 Samsung SDRAM	8GB	
Monitor	Wide screen LCD 22 inch	
Accessories	Mouse, Keyboard, Footswitch	