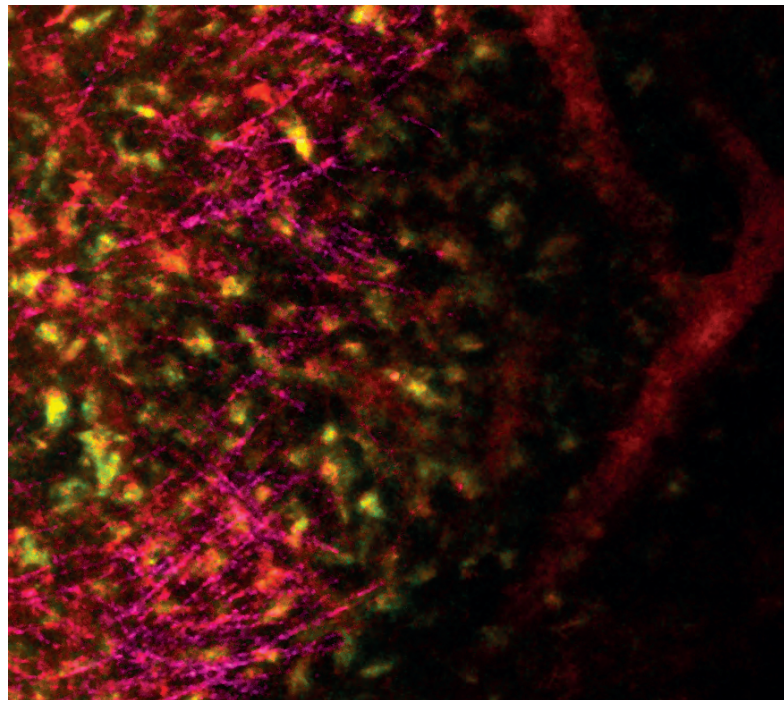
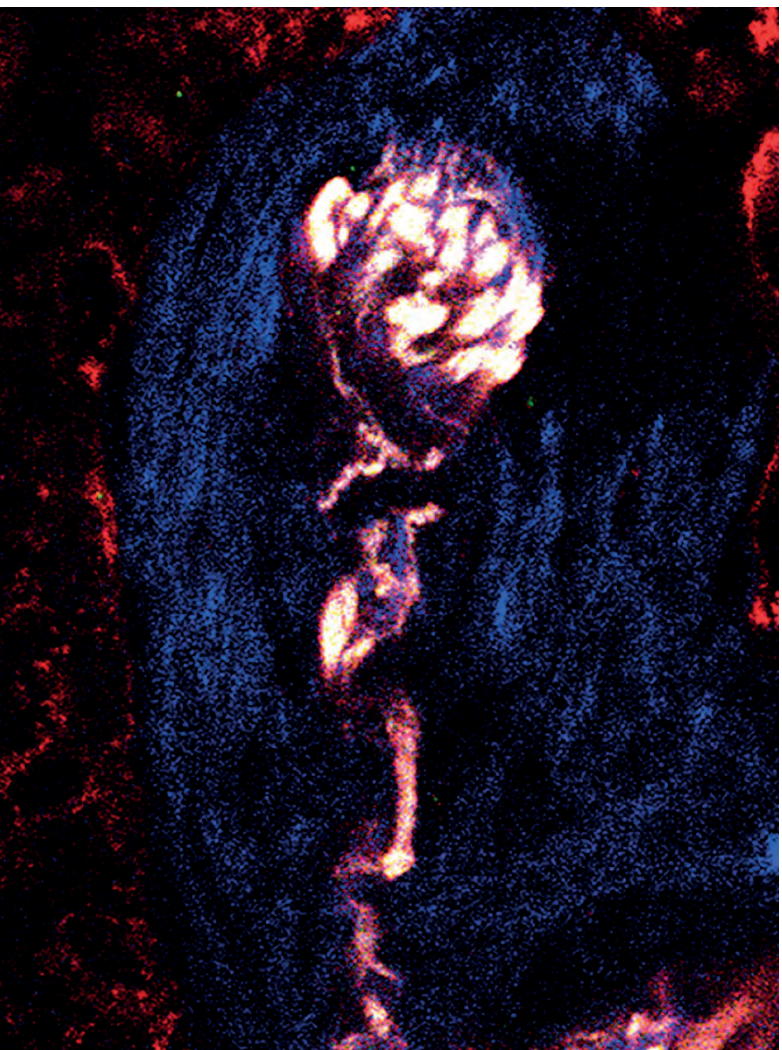
Living up to Life

Leica
MICROSYSTEMS

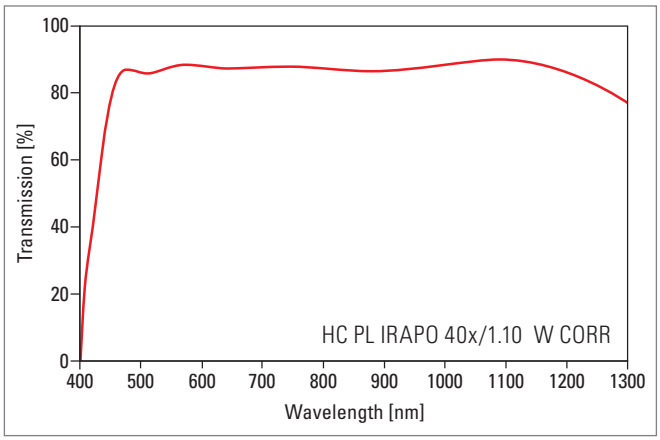


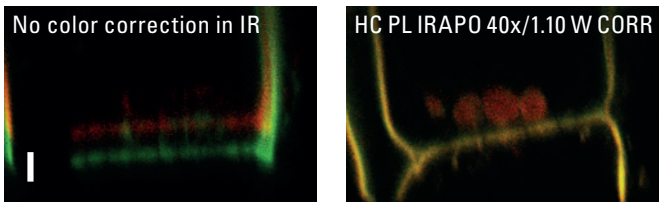


Leica IRAPO Objectives for Deep Tissue Imaging

Superior Optics for Multiphoton Excitation

- See brighter images from deeper tissue sections with high transmission in both the visible and infrared ranges
- Exceptional axial and lateral color correction in the infrared for multiphoton excitation of multiple fluorophores with perfect colocalization
- Superior water immersion objectives for aberration-free results





Two-photon excitation with 820 nm (green) and 1000 nm (red), xz-scan with non-descanned detection. Scale bar, 5 µm.

SEE DEEPER WITH LEICA'S IRAPO OBJECTIVES

Maximum Transmission in VIS and IR for Brighter Images

Superior anti-reflective coatings make the Leica IRAPO objectives highly transmissive in the visible and infrared range. This maximizes the number of photons for excitation and results in brighter images from deeper tissue sections. Efficient collection of emitted photons reduces the need for high laser powers and protects the specimen from photodamage.

Excellent Colocalization of Multicolor Multiphoton Excitation

Colocalization experiments and localized photomanipulations require overlapping excitation volumes to yield meaningful results. Leica IRAPO objectives are color-corrected in the infrared up to 1300 nm.
This minimizes the axial shift between different multiphoton wavelengths from the complete spectrum of Ti:Sapphire lasers and OPOs (Optical Parametric Oscillators) up to 1300 nm.

Superior Optical Performance for Deep Tissue Imaging

To reduce distortions introduced by refractive index mismatches between immersion medium and tissue, high quality water immersion objectives are essential for deep tissue imaging. Specialized water immersion objectives with high numerical aperture focus the multiphoton laser to a spatially restricted volume. This increases excitation efficiency and results in high-resolution images from deep tissue sections.

Objective	Free working distance [mm]	Transmission		Color correction	
		VIS	IR	VIS	IR
HC PL IRAPO 20x/0.75 W	0.6	●	●	○	●
HCX IRAPO L 25x/0.95 W	2.5	●	○	●	○
HC PL IRAPO 40x/1.10 W CORR	0.63	●	●		●

● excellent performance ○ good performance