Capture the fastest processes

ZEISS Axiocam 807 mono

Your Fast, 7 Megapixel Microscope Camera for
Live Cell Imaging with Large Fields of View

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Seeing beyond

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In fluorescence microscopy, the imaging detector has a significant influence on the resulting image quality. Improving signal-to-noise ratio at high imaging speeds is crucial, particularly when observing delicate living cells or organisms. ZEISS Axiocam 807 mono was developed for exactly this purpose.

With its 17.6 mm diagonal CMOS sensor, ZEISS Axiocam 807 mono acquires large fields of view with a single shot. Capture the surrounding environment of your sample for additional information or improve throughput when scanning large areas of your sample. The 7 megapixel sensor will resolve the finest details of your specimen.
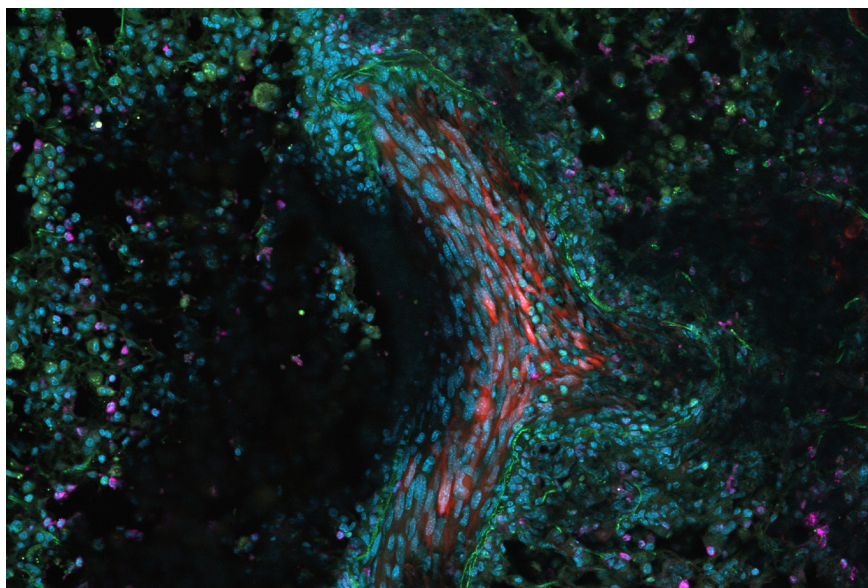
Murine lung tissue with tumor metastasis fixed with 4% PFA and stained for: tumor cells (RFP), macrophages (siglecH-GFP), T-cells (Ly6-G647) and DNA (DAPI). Sample Courtesy of H. Ishikawa-Ankerhold, Walter-Brendel-Zentrum für Experimentelle Medizin München, Germany
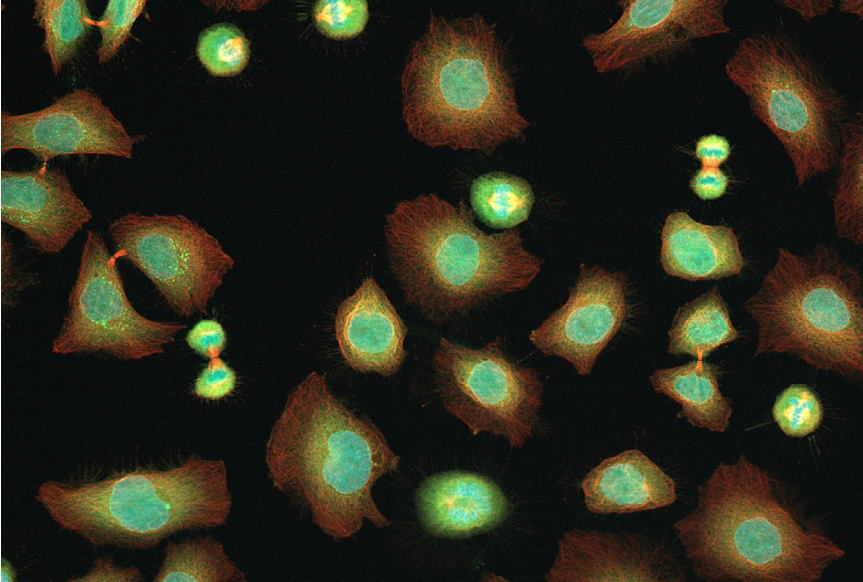

The frame rate of 73 images per second at full sensor resolution resolves even the fastest processes and can be further improved by binning or using a sub-array of the sensor. Distortion-free imaging is guaranteed by the global shutter technology. In combination with its high peak quantum efficiency of 78 % and low readout-noise, high signal-to-noise ratios even at low light conditions are ensured.

ZEISS Axiocam 807 mono uses a dual USB 3.0 interface for data transfer. In contrast to other proprietary connections, this standardized interface provides stable and fast data rates for reliable image acquisition.

Like other ZEISS Axiocam cameras with actively stabilized sensors, ZEISS Axiocam 807 mono reaches a stable temperature within seconds after microscope start-up, delivering reproducible results immediately. Because of its hardware triggering capabilities, the camera can be used in complex setups with many accessories. ZEISS Axiocam 807 mono is the ideal choice for life science applications requiring fast, low light imaging of large fields of view or efficient scanning of large sample areas.

Optical section of mitotic cells created with ZEISS Apotome. Cells have DNA stained with Hoest33342, Aurora B with Alexa 488 und Tubulin with Alexa 568

Recommended for:

- Fast imaging of dim fluorescent signals with good signal-to-noise ratio
- Fast tile scanning applications
- Dynamic events in live cell imaging
- Flexible setups with varying applications

Simpler. More intelligent. More integrated.

- 7 megapixel CMOS sensor with global shutter technology
- Large sensor with 17.6 mm diagonal for extended field of view
- Wide sensitivity spectrum from 350 nm to 1000 nm
- 73 full-resolution images per second
- High-quality noise inhibition technology and 78 % sensor quantum efficiency for lowlight imaging
- 4.5 micron pixels for optimal resolution
- Global shutter architecture for distortion-free images
- Reproducible image quality due to active thermal stabilization of the sensor
- Robust, very fast and easy-to-use dual USB 3.0 connection
- Hardware triggering

Quantum Efficiency ZEISS Axiocam 807 mono
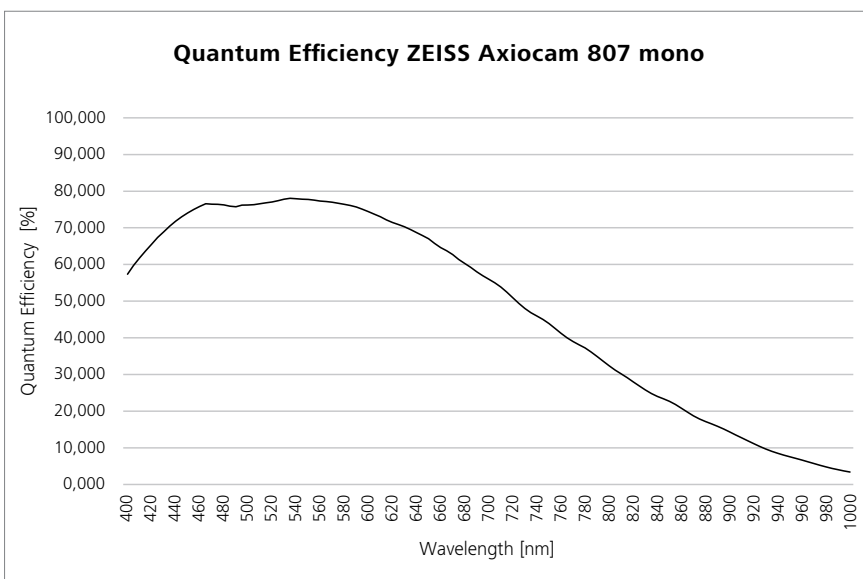
Technical Data and Conformity

Feature	Value
Sensor Type	Sony CMOS image sensor, Global Shutter architecture
	Mono and color versions
Sensor Size	Image Diagonal 17.6 mm, equivalent to 1.1" Sensor Format
	Image Field (14.5 mm × 9.9 mm)
Sensor Pixel Count	3216 (H) × 2208 (V) = 7.1 Megapixel
HW Subsampling 2×	1608 (H) × 1104) (V) = 1.8 Megapixel, high speed full view mode
Pixel Size	4.5 µm × 4.5 µm
Bit Depth	14 bit / 12 bit or 8 bit/pixel
Exposure Range	0.1 ms up to 60 s
Gain	1×, 2×, 4×, 8×, 16×
Binning	1 × 1, 2 × 2, 3 × 3, 4 × 4, 5 × 5 (combined analog and digital binning)
Dark Current Signal	0.3e- / p / s at 25 °C sensor temperature
HDR	Reduced readout noise at Gain 1× for best combination of sensitivity and high intensity levels in one frame.
Cooling System	Active cooling, regulated sensor temperature 25 °C
Spectral Sensitivity	Approx. 350 nm − 1000 nm, protection glass (coated)
Interfaces	Dual USB 3.0
Trigger Port	Connector for trigger cable: Trigger-in, trigger-out, ready
Power Supply	By USB 3.0 connections, power consumption 7 W max.
Operation System	Win 10 ×64 Enterprise
Software	ZEN 3.6 (blue edition) and higher, ZEN core 3.5 and higher
Image Enhancement Functions	Denoising, sharpening, shading correction, dark current compensation
Automatic Feature	Optional automatic exposure time adaption
Optical Interface	C-Mount
Dimensions and Weight	10.8 cm × 7.8 cm × 6.1 cm / 580 g
Order Number	ZEISS Axiocam 807 mono: 426560-9160-000

Frame Rate	FPS
Live Image	> 30
3216 × 2208	73
1602 × 1104	260 (2 × 2 subsampling)
1920 × 1080	145
1024 × 1024	151
512 × 512	282
1920 × 256	487
1920 × 128	506

Read Noise (gain)	Full Well Capacity	Dynamic Range
5.7 e- (1×)	25,000 e-	4,420:1
< 4.6 e- (2×)	12,500 e-	2,730:1
< 3.9 e- (4×)	6,250 e-	1,610:1
< 3.4 e- (8×)	3,125 e-	930:1
2.9 e- (2.9×)	1,560 e-	530:1
4.0 e- (HDR mode)	25,000 e-	6,230:1

CE

DQS ISO 9001:2015

DQS Certified ISO 13485:2016

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