

# Capture your sample precisely as it is.



## **ZEISS Axiocam 705 mono**

Your fast 5 megapixel microscope camera for high resolution imaging at high speed.

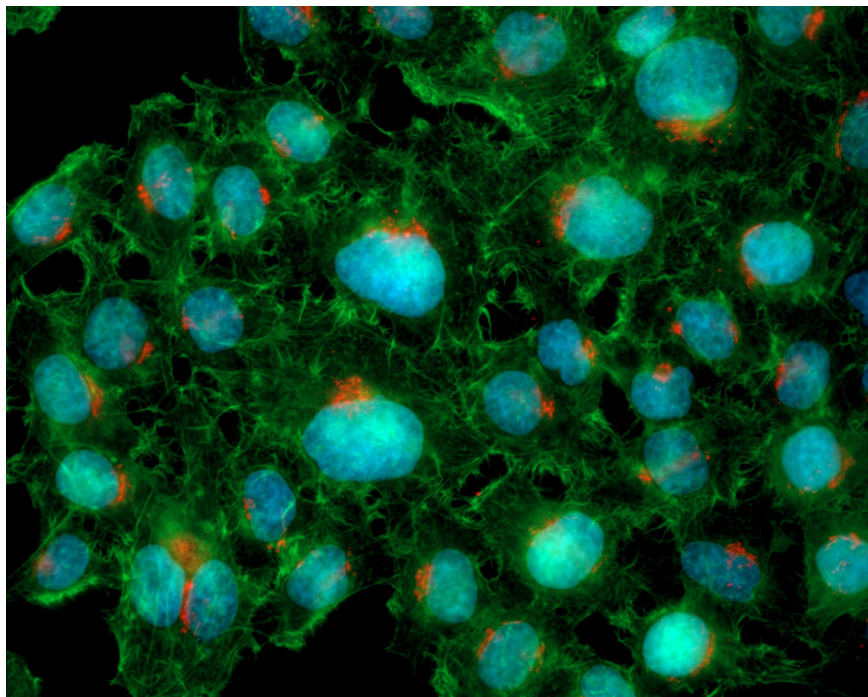
[zeiss.com/axiocam705-mono](https://zeiss.com/axiocam705-mono)



Seeing beyond

## ZEISS Axiocam 705 mono

Your fast 5 megapixel microscope camera for high resolution imaging at high speed.



*Fixed cultured HeLa cells.*

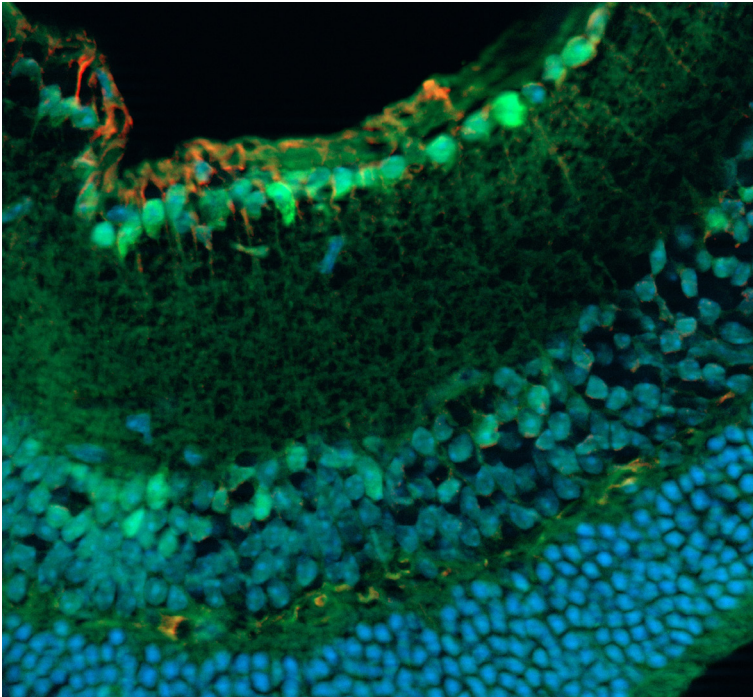
*Blue: DNA (DAPI), green: F-actin (phalloidin-Alexa Fluor 488), red: trans Golgi network (TGN-Alexa Fluor 561).*



Axiocam 705 mono is your fast and sensitive microscope camera with a 5 megapixel monochrome CMOS sensor and 3.45  $\mu\text{m}$  pixel size. You can now capture time lapse sequences of the most dynamic processes in your sample, thanks to achieving more than 60 frames per second with 5 MP full-sensor field of view. Then simply reduce the pixel count to accelerate your imaging even more – up to hundreds of frames per second. Hardware triggering delivers precise timing and enables extremely fast multidimensional imaging experiments. Global shutter camera architecture keeps your images free of motion artefacts. Active sensor cooling and low sensor readout noise

make this microscope camera your ideal choice for fluorescence microscopy of dim and delicate specimens. Your Axiocam 705 mono employs analog pixel binning and amplification of signal to boost sensitivity. You can use exposure times from 100  $\mu\text{s}$  up to 60s. With high peak quantum efficiency of up to 72% and a broad spectral sensitivity ranging from UV to near-IR light, you can tackle even the most challenging fluorescence imaging applications.

Axiocam 705 mono combines an imaging speed that larger camera sensors simply cannot achieve with perfect resolution for your experiments, giving you an excellent price-performance ratio.



Fixed mouse retina section.

Blue: DNA (DAPI), green: ganglion cells (Alexa Fluor 488), red: glia cells (Texas Red).

Acquired with ZEISS Apotome.2. Specimen courtesy of S. Nan and P. Heiduschka, Department of Ophthalmology, University Medical Center Münster, Germany.

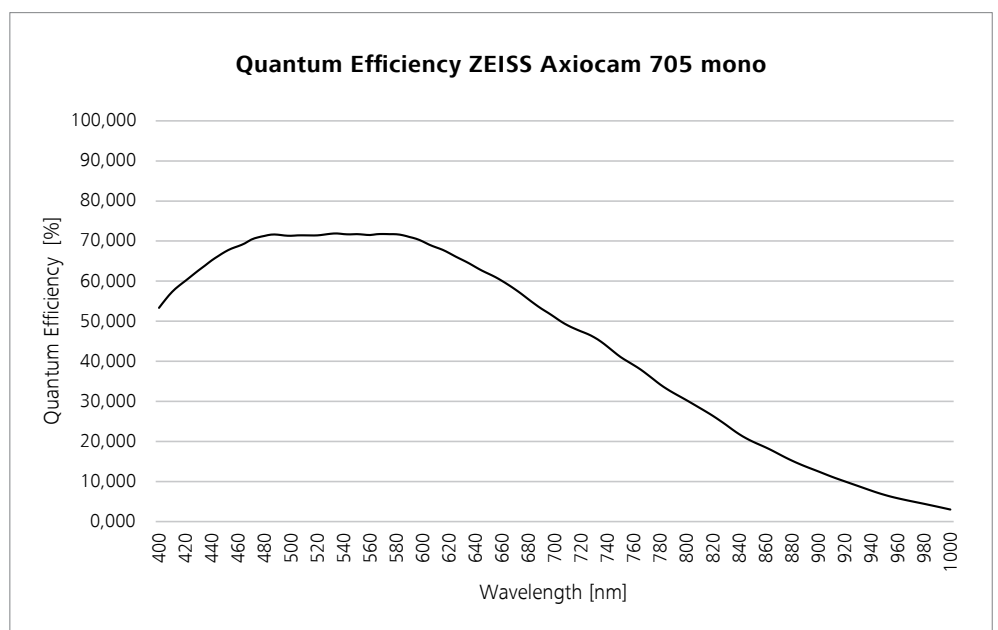
### Highlights

- 5-megapixel cooled global-shutter CMOS sensor
- 62 frames per second in full 5-megapixel resolution\*
- Wide sensitivity spectrum 350 nm – 1000 nm
- Exclusive noise inhibition technology for low-light imaging
- Low readout noise and analogue signal amplification
- Dynamic range of 1:25,000 in high-dynamic range (HDR) mode
- Analogue pixel binning
- Small 3.45 µm pixels for high-resolution imaging
- Hardware triggering

### Recommended for:

- High-resolution fluorescence microscopy
- High-framerate imaging
- Research
- Documentation
- Live cell imaging
- Low light microscopy

\* specified framerate assumes a sufficiently performant computer and a short camera exposure time



# Technical Specifications

Technical Data			
Sensor type	Sony CMOS image monochrome sensor, global shutter architecture		
Sensor size	Image diagonal 11.1 mm, equivalent to 2/3" sensor format (8.5 mm × 7.1 mm)		
Pixel count	2464 (H) × 2056 (V) = 5.07 megapixel		
Hardware sensor subsampling	1232 (H) × 1028 (V) = 1.25 megapixel @ full field of view		
Pixel size	3.45 µm × 3.45 µm		
Bit depth	14 bit, 12 bit or 8 bit / pixel		
Exposure range	from 0.1 ms to 60 s		
Gain	1x, 2x, 4x, 8x, 16x,		
Binning	1×1, 2×2, 3×3, 4×4, 5×5, (combined analog and digital binning)		
Dark current signal	< 0,5 e/pixel/s at sensor temperature 18 °C		
Frame rate	30 fps live image		
	H	× V (ROI)	Frame Rate (fps)
	2464	× 2056	60
	1920	× 1080	115
	1232	× 1028	173 (2×2 subsampling, full field of view)
	1024	× 1024	121
Dynamic range	Read Noise (gain)	Full Well	Dynamic Range
	2.20 e (1×)	11,000 e	1:5,000
	1.74 e (2×)	5,000 e	1:3,100
	1.48 e (4×)	2,700 e	1:1,800
	1.29 e (8×)	1,300 e	1:1,300
1.15 e (16×)	690 e	1:600	
High dynamic range (HDR) mode	Extended dynamic range 1:25.000		
Cooling system	Active thermoelectric cooling, regulated sensor temperature 18 °C		
Spectral sensitivity	Approx. 350 nm – 1000 nm, protection glass (coated)		
Interfaces	USB 3.0 (data & power) and USB 2.0 (power only)		
Trigger ports	Trigger-in, trigger-out, status readout		
Power supply	By USB 3.0 and USB 2.0, 7 W power consumption		
Operation system	Windows 10 Pro / Ultimate		
Software	ZEN 3.1 (blue edition) or newer, ZEN core 2.7 or newer		
Image enhancement functions	Denoise, unsharp mask, shading correction, dark current compensation, blemish removal		
Automatic features	Automatic exposure time optimization		
Optical/mechanical interface	C-Mount		
Dimensions and weight	10.8 cm × 7.8 cm × 4.3 cm (2.3" × 3.2" × 1.7"), 580 g		
Order number	426560-9060-000		



MicroscopeWorld

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