# Capture your sample precisely as it is.


## ZEISS Axiocam 712 color

Your all-round 12 megapixel microscope camera for true color acquisition of large specimen areas in high resolution.

**zeiss.com/axiocam712-color**

ZEISS

Seeing beyond

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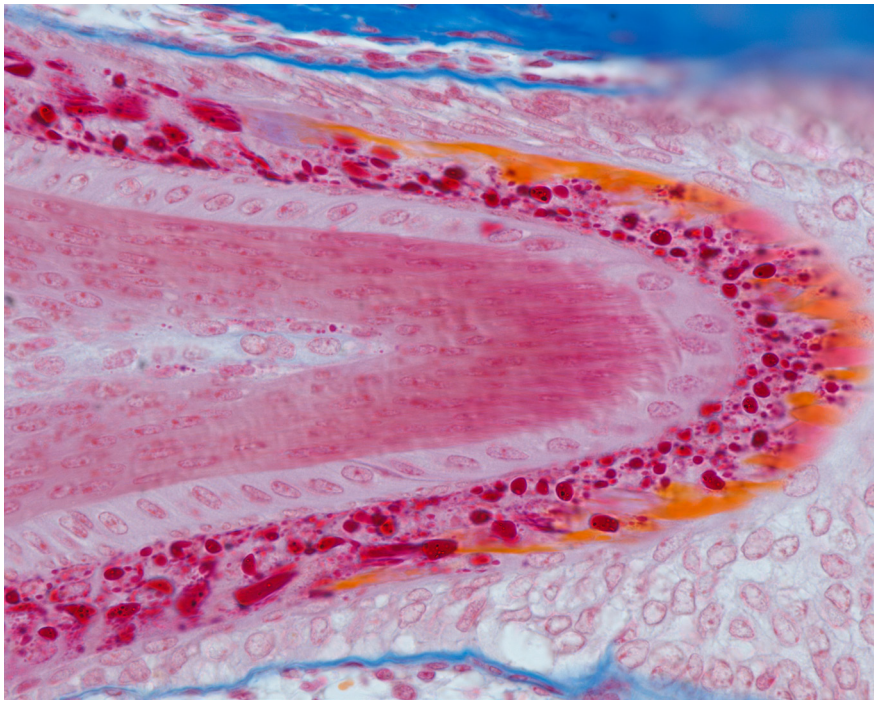
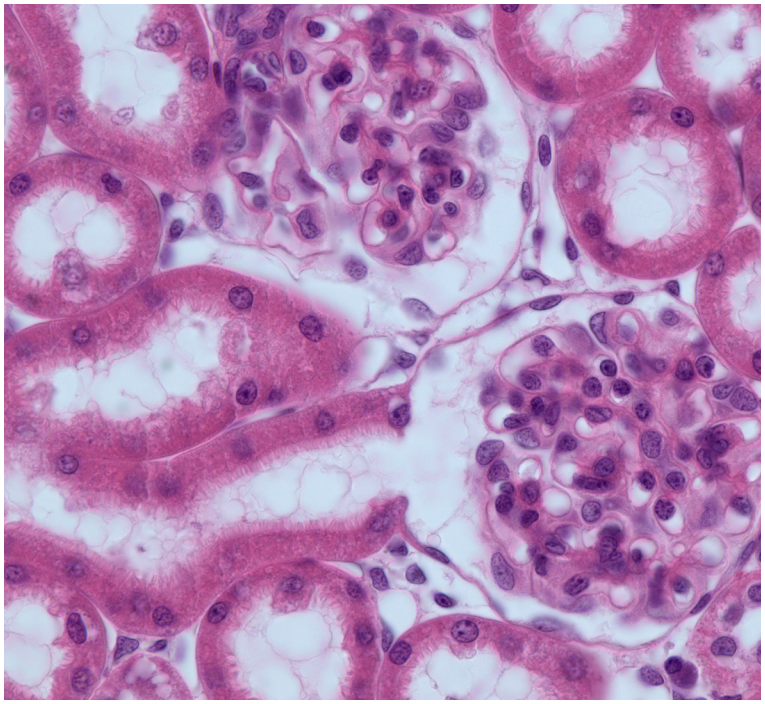


*Mouth region of a mouse embryo section. Azan trichrome staining.*
*Acquired with ZEISS Plan-Apochromat 63×/1.4 oil immersion objective.*


Your Axiocam 712 color combines a large image sensor, small pixel size, precise color rendition and fast imaging speed in one versatile and flexible color microscope camera. It features a 12 megapixel color CMOS sensor and delivers more than 20 frames per second with a large field of view. You can now acquire large specimen regions quickly and with uncompromised image quality. Global shutter architecture prevents motion artifacts, even when imaging your most dynamic specimens.

The large field of view reduces the number of tiles required to image largest samples, and so drastically accelerates tiling experiments. Sub-region sensor readout will further accelerate time-lapse imaging speeds —up to hundreds of frames per second.
Your Axiocam 712 color features active image sensor cooling to deliver low image noise, stable camera operation and reproducible results over long periods of time. Pixel binning, sensor sub-region readout, low readout noise, a wide range of exposure times and a unique high-dynamic range (HDR) mode are just some of the many scientific camera features that let Axiocam 712 color take on any imaging challenge. It's a true all-rounder among color microscope cameras.



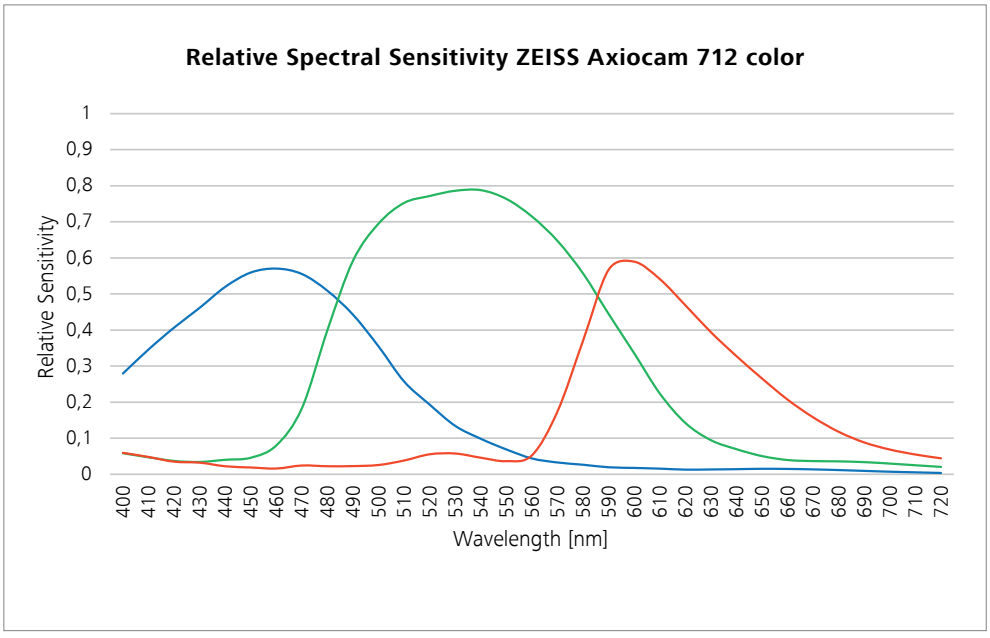
*Rat kidney section. HE staining.*
*Acquired with ZEISS Plan-Apochromat 63×/1.4 oil immersion objective.*

**Highlights**

- 12-megapixel cooled color CMOS sensor
- Large sensor for extended field of view
- Best-in-class color rendition
- Color and monochrome imaging modes
- 20 frames per second in full 12-megapixel resolution*
- 30 frames per second of the entire field of view in live image mode*
- Exclusive noise inhibition technology for low-light imaging
- Dynamic range of 1:25,000 in high-dynamic range (HDR) mode

**Recommended for:**

- High-resolution microscopy
- Large region imaging
- Medical imaging
- Material science research
- Macroscopic imaging
- Pathology




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

# Technical Specifications

| Technical Data | |
|---|---|
| Sensor type | Sony CMOS image color sensor, global shutter architecture |
| Sensor size | Image diagonal 17.5 mm, equivalent to 1.1" sensor format (14.1 mm × 10.4 mm) |
| Pixel count | 4096 (H) × 3008 (V) = 12 megapixel |
| Hardware sensor subsampling | 2048 (H) × 1504 (V) = 3 megapixel @ full field of view |
| Pixel size | 3.45 µm × 3.45 µm |
| Bit depth | 14 bit, 12 bit or 8 bit |
| Exposure range | from 0.1 ms 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 | < 0,5 e/pixel/s at sensor temperature 18 °C |
| Frame rate | 30 fps live image<br>H × V (ROI) Frame Rate (fps)<br>4096 × 3008 23<br>2048 × 1504 46 (2×2 subsampling, full field of view)<br>1920 × 1080 63<br>1024 × 1024 66<br>1920 × 256 241<br>1920 × 128 431 |
| Dynamic range | Read Noise (gain) Full Well Dynamic Range<br>2.20 e (1x) 11,000 e 1:5,000<br>1.74 e (2x) 5,000 e 1:3,100<br>1.48 e (4x) 2,700 e 1:1,800<br>1.29 e (8x) 1,300 e 1:1,300<br>1.15 e (16x) 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. 400 nm – 720 nm, anti-reflection coated infrared (IR) filter |
| Interfaces | USB 3.0 (data & power) and USB 2.0 (power only) |
| Trigger Ports | Trigger-in, trigger-out, status readout |
| Power supply | From PC through USB connections, max. power consumption: 7 W |
| 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 | 426560-9080-000 |

ISO 13485:2016

**Carl Zeiss Microscopy GmbH**
07745 Jena, Germany
microscopy@zeiss.com
www.zeiss.com/axiocam712-color