



Product comparison:

JENOPTIK GRYPHAX® AVIOR vs. ProgRes® CT3

GRYPHAX®

Explore your micro universe cost-efficient
with 2 & 8 Mega-Pixel | 4K.



The superior solution for education applications

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JENOPTIK GRYPHAX® - comparison

All camera comparisons are based on results of our JENOPTIK digital image laboratory. The quality of our cameras is proven by spectral measurement at our laboratory and is based on guidelines of EMVA 1288 standard.

Comparison of JENOPTIK GRYPHAX® AVIOR



Refine every microscope workstation.

JENOPTIK GRYPHAX® AVIOR

Supersedes all 3 Mega-Pixel microscope cameras!

JENOPTIK GRYPHAX® AVIOR is made as a **superior solution** for education microscope applications.

This camera provides fast live images with brilliant color reproduction, using a **1/2" SONY** CMOS sensor with **Exmor R® - back illuminating** technology, at very high resolution.

Within this comparison we take a look at the ProgRes® CT3 compared to JENOPTIK GRYPHAX® AVIOR, the successor of ProgRes® CT3.

Sensor/Camera	ProgRes® CT3 with IR cut filter	JENOPTIK GRYPHAX® AVIOR with IR cut filter
Utilized sensor diagonal	8,19 mm	8,15 mm
Frame Rate @ FPS	8 at 3.1 MPix (2048 x 1536)	30 at FULL HD - 2.1 MPix (1920 x 1080)
Camera Resolution @ px	2048 x 1536	3840 x 2160 8.3 MPix (4K / UHD)
Pixel Pitch [µm²]	3.2 x 3.2	1.85 x 1.85
Quantum Efficiency [N(e-)/N(p)] @ 532nm (green)	0.30 QE(λ) see spectral data	0.57 QE(λ) see spectral data
Dark Noise [DN/e-]	1.8 DN; 30e-	0.5 DN (at 10 bit); 4e-
Dynamic Range (DR)	54 dB	65 dB

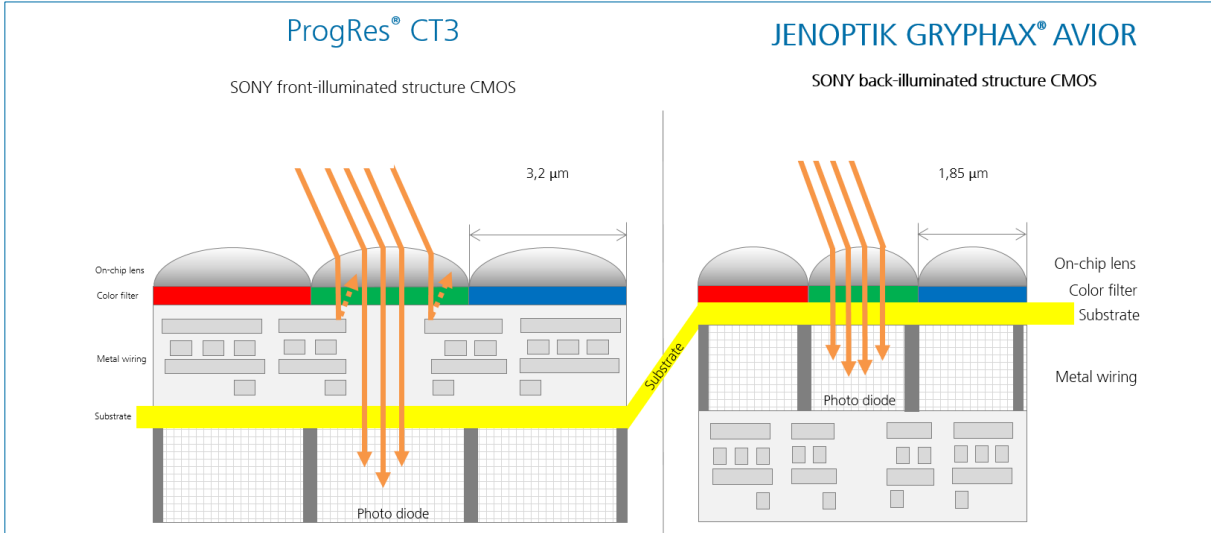
By reason on our measurements, done within our laboratory and based on guidelines of EMVA 1288.

Sensor Technology



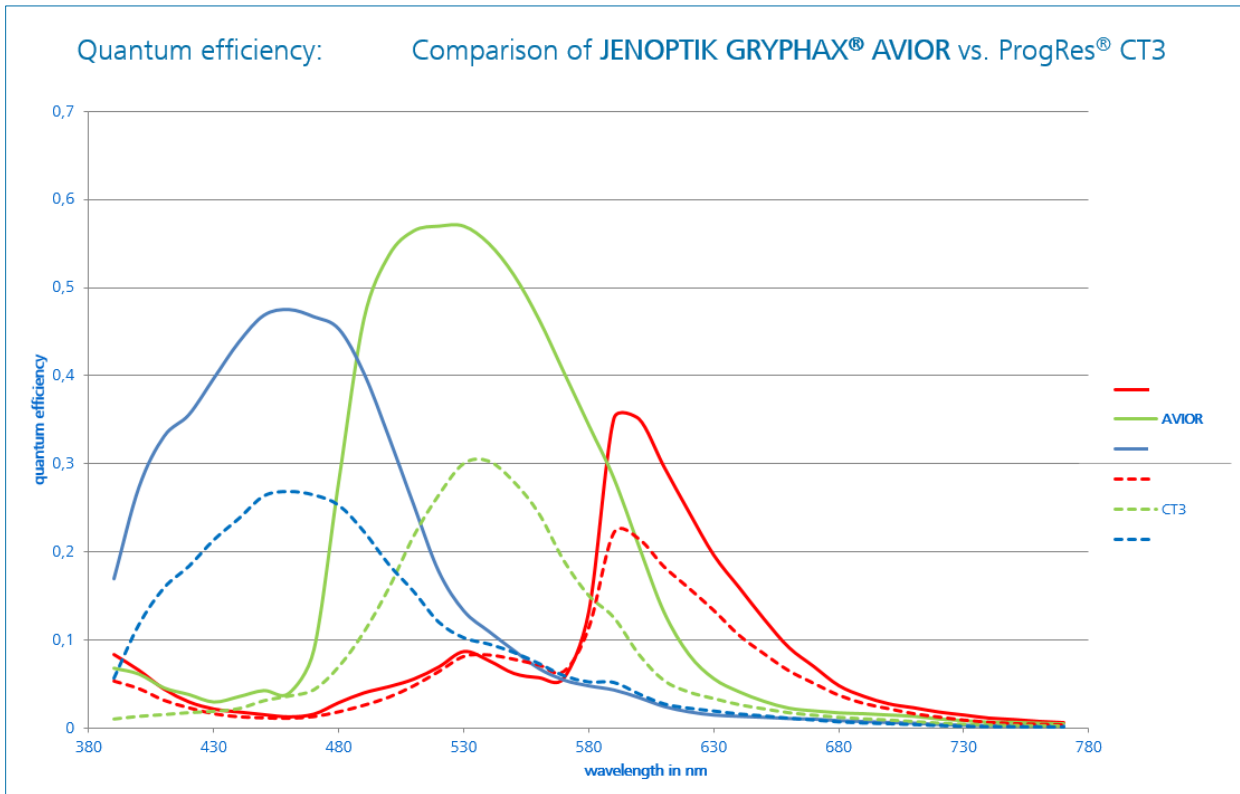
JENOPTIK GRYPHAX® AVIOR is equipped with back-illuminated CMOS sensor.

Which has about **four times more efficient pixels** due to **SONY Exmor R®** - back illumination technology! (double QE in spite of half pixel size)



Source: Graphic done by Jenoptik based on information from www.sony.net

Quantum efficiency with IR-cut filter (C500s):





JENOPTIK GRYPHAX® AVIOR's quantum efficiency **is almost double** (at 532 nm) than ProgRes® CT3!

JENOPTIK GRYPHAX® AVIOR **advantages:**

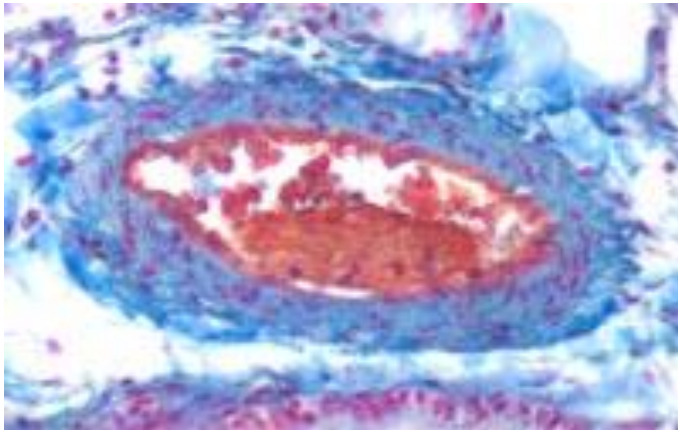
- ☆ **High effective** photon to electron transformation
- ☆ Extraordinary **high image resolution**
- ☆ Less illumination
- ☆ Small and very **efficient pixels**
- ☆ Benefits from **SONY Exmor R®** - back illumination technology
- ☆ **Long exposure** times up to 15 seconds
- ☆ **High gain** optionally up to Gain 15
- ☆ **Secure investment:** long-lasting & reliable hardware

Sensor resolution comparison

Magnify the level of detail! Comparison of similar specimen and different cameras.

ProgRes® CT3

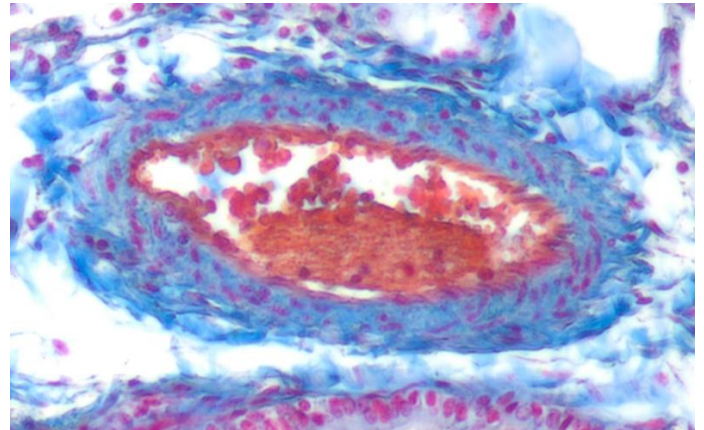
less details



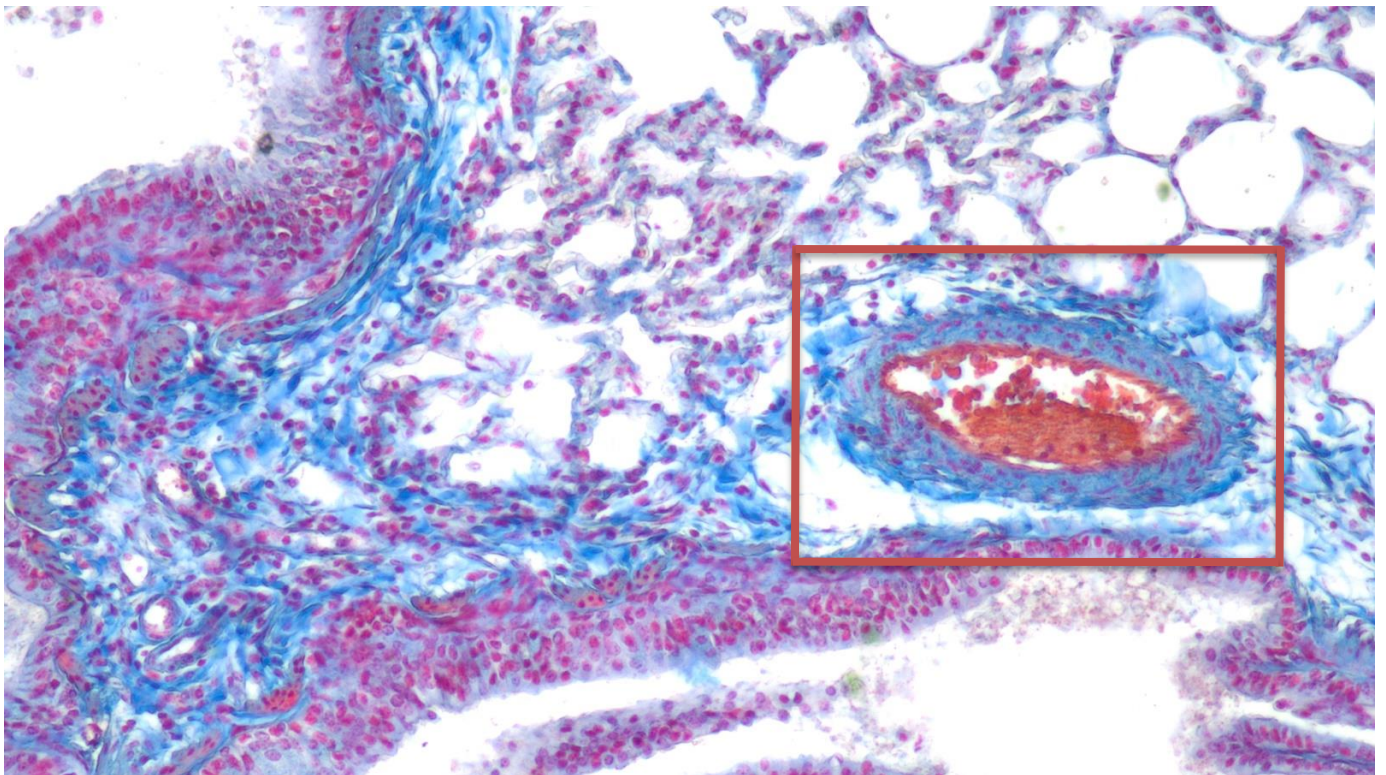
TV-Adaption Zeiss 0.63x (60N")

JENOPTIK GRYPHAX® AVIOR

4 times higher details due to smaller & more efficient pixels



TV-Adaption Zeiss 0.63x (60N")



Equipment:

Microscope Zeiss AxioScope.A1

Lens

Zeiss 10x EC-Epiplan-NEOFLUAR

Sample:

Lung of cat Transverse Cross Section (Lieder)



JENOPTIK GRYPHAX® AVIOR

has a more than **four times higher** sensor resolution than ProgRes® CT3!

JENOPTIK GRYPHAX® AVIOR advantages:

- ☆ Microscopy-optimized image resolution (**4K / UHD**) for education application
- ☆ **Highest level of detail** due to small pixel size and efficient sensor technology
- ☆ **Brilliant image colors** by proven JENOPTIK color reproduction

Live image



JENOPTIK GRYPHAX® AVIOR is equipped with a high resolution and high sensitive SONY CMOS Exmor R® sensor with back-illuminated structure.

It provides **fast live image speed**, perfect for video recording. Which is **nearly four times faster** compared to CT3!

Main features of JENOPTIK GRYPHAX software take advantage of the modern camera characteristics.

Video

JENOPTIK GRYPHAX® AVIOR **advantages:**

- ☆ Video speed at live image: **“You get what you see”**
- ☆ Video recording of living specimen or specimen to be moved at **brilliant image quality**.

EDF/ Z-stacking

JENOPTIK GRYPHAX® AVIOR **advantage:**

- ☆ **Real-time appearance** of EDF/ Z-stacking images (high frame rate, higher sensitivity, low noise sensor) saves time.

Panorama

JENOPTIK GRYPHAX® AVIOR **advantage:**

- ☆ **Real-time appearance** of Panorama image (high frame rate, higher sensitivity, low noise sensor) saves time.

Remote control

JENOPTIK GRYPHAX® AVIOR **advantage:**

- ☆ **Real-time appearance** of remote controlled cameras via network connection.

Software



JENOPTIK GRYPHAX software is workflow optimized capture software. It is created to help users intuitive getting the perfect live and captured image and saving time.

JENOPTIK GRYPHAX® Software **advantage:**

- ☆ Cross-platform compatible **WIN, MAC** and **LINUX**
- ☆ **Identical GUI** across WIN, MAC and LINUX platform
- ☆ **Versatility:** Free SDK, wide range of 3rd party software support
- ☆ **Drivers for:** µManager, Twain, MetaMorph and DirectX support included
- ☆ **Stability:** Made in Germany, software updates free of charge

Weight and dimension

ProgRes® CT3	JENOPTIK GRYPHAX® AVIOR
Weight: ~ 600 gr	Weight: ~ 400 gr
Dimension:: L x W x H in mm 89 x 84 x 93	Dimension: L x W x H in mm 85 x 75 x 50

JENOPTIK GRYPHAX® Packaging advantage:

- ☆ Lower transport costs due to less weight and dimension of housing and camera packaging.

Applications and contrast techniques

JENOPTIK GRYPHAX® AVIOR recommended Applications

- Life & Medical Science
- **Education Life & Medical Science**
- Material & Manufacturing
- **Education Material & Manufacturing**
- Fluorescence
- Education Fluorescence

JENOPTIK GRYPHAX® AVIOR recommended contrast techniques

- **BF – Bright-Field**
- DF – Dark-Field
- DIC – Differential-Interference-Contrast
- Ph – Phase contrast
- Pol - Polarization

JENOPTIK GRYPHAX® AVIOR is the superior solution for education applications at Bright Field.

Summary

JENOPTIK GRYPHAX® AVIOR advantages at a glance:

- ☆ **Effective** photon to electron transformation
- ☆ **Less** illumination
- ☆ **Very short** exposure times
- ☆ **Secure** investment: long-lasting & reliable hardware
- ☆ Microscopy-**optimized** image resolution (**4K UHD**) for routine education application
- ☆ **Highest** level of detail due to small pixel size and efficient sensor technology
- ☆ Benefits from **SONY Exmor R®** - back illumination technology
- ☆ Brilliant image colors by proven JENOPTIK color reproduction
- ☆ **Video speed** at live image: “You get what you see”
- ☆ Real-time appearance of **EDF/ Z-stacking** and **Panorama** images saves time.
- ☆ Cross-platform compatible **WIN, MAC** and **LINUX**
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- ☆ Lower transport costs.



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The **superior solution** for education applications

Also take a look on our [new product portfolio JENOPTIK GRYPHAX®!](#)

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