Product comparison:

**PROGRES GRYPHAX® SUBRA vs. ProgRes® CT3**

**PROGRES GRYPHAX® SUBRA**

Explore the micro universe in Full HD.

The *essential solution* for routine applications

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PROGRES 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 PROGRES GRYPHAX® SUBRA

Refine every microscope workstation.

PROGRES GRYPHAX® SUBRA
supersedes all 3 MPix CMOS microscope cameras.

PROGRES GRYPHAX® SUBRA is made as an essential solution for routine microscope applications. This camera provides fast live images with brilliant color reproduction, using a 2/3” CMOS sensor with global shutter technology, at very short exposure times.

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

<table>
<thead>
<tr>
<th>Sensor/Camera</th>
<th>ProgRes® CT3 with IR cut filter</th>
<th>PROGRES GRYPHAX® SUBRA with IR cut filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilized sensor diagonal</td>
<td>8.19 mm</td>
<td>12.75 mm</td>
</tr>
<tr>
<td>FPS</td>
<td>8 at 3.1 MPix (2048 x 1536)</td>
<td>30 at 2.2 MPix (2048 x 1084)</td>
</tr>
<tr>
<td>Pixel Pitch [µm²]</td>
<td>3.2 x 3.2</td>
<td>5.5 x 5.5</td>
</tr>
<tr>
<td>Quantum Efficiency (\text{N(e-)} / \text{N(p)}) @ 532nm (green)</td>
<td>0.30 QE(λ) see spectral data</td>
<td>0.40 QE(λ) see spectral data</td>
</tr>
<tr>
<td>Dark Noise [DN/e-]</td>
<td>1.8 DN; 30e-</td>
<td>1.6 DN (at 10 bit); 13e-</td>
</tr>
<tr>
<td>Dynamic Range (DR)</td>
<td>54.0 dB</td>
<td>56.0 dB</td>
</tr>
</tbody>
</table>

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

**PROGRES GYPHAX® SUBRA** is equipped with CMOS front-illuminated CMOS sensor technology.

Quantum efficiency with IR-cut filter:

Source: Graphic done by Jenoptik based on information from [www.sony.net](http://www.sony.net)
PROGRES GRYPHAX® SUBRA’s quantum efficiency is more than 33% higher (at 532 nm) than ProgRes® CT3.

PROGRES GRYPHAX® SUBRA advantages:

- Effective photon to electron transformation
- Less illumination
- Very short exposure times
- Large pixel size
- Global shutter
- Secure investment: long-lasting & reliable hardware
## Sensor size with basic TV-adaptar 1,0
Magnify the field of view with the perfect TV-adaption, depending on the microscope brand.

<table>
<thead>
<tr>
<th>Equipment:</th>
<th>Microscope Zeiss AxioScope.A1</th>
<th>Lens Zeiss 5x EC-Epiplan-NEOFLUAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample:</td>
<td>Hedera Helix (Gemeiner Efeu) Blattstiel quer &quot;1037&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**ProgRes® CT3**
CMOS 1/2”
TV-Adaption Zeiss 1,0x (60N-C 1”)

**PROGRES GRYPHAX® SUBRA**
CMOS 2/3”
TV-Adaption Zeiss 1,0x (60N-C 1”)

![Image of microscope samples](image-url)
Sensor size with best fitting TV-adapter 0.63

<table>
<thead>
<tr>
<th>ProgRes® CT3</th>
<th>PROGRES GRYPHAX® SUBRA</th>
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</thead>
<tbody>
<tr>
<td>CMOS 1/2”</td>
<td>CMOS 2/3”</td>
</tr>
</tbody>
</table>

TV-Adaption Zeiss 0.63x (60N-C 2/3”)

**Equipment:**
- Microscope: Zeiss AxioScope.A1
- Lens: Zeiss 5x EC-Epiplan-NEOFLUAR

**Sample:** Hedera Helix (Gemeiner Efeu) Blattstiel quer “1037”

PROGRES GRYPHAX® SUBRA has a more than two times larger sensor field than ProgRes® CT3.

**PROGRES GRYPHAX® SUBRA advantages:**
- Microscopy-optimized field of view
- Cost-efficient TV adaption 1x are suitable
Live image

PROGRES GRYPHAX® SUBRA is equipped with a progressive scan and pipelined global shutter sensor. It provides fast live image speed, perfect for video recording. This is nearly four times faster compared to CT3.

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

Video

PROGRES GRYPHAX® SUBRA 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, without interlace effect or other image affection.

EDF/ Z-stacking

PROGRES GRYPHAX® SUBRA advantage:

✱ Real-time appearance of EDF/ Z-stacking images (no interlace effect, no distorted images) saves time.

Panorama

PROGRES GRYPHAX® SUBRA advantage:

✱ Real-time appearance of Panorama image (no interlace effect, no distorted images) saves time.

Software

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

PROGRES GRYPHAX® Software advantage:

✱ Cross-platform compatible WIN, MAC and LINUX
✱ Identical GUI across WIN, MAC and LINUX platform

Weight and dimension

<table>
<thead>
<tr>
<th>ProgRes® CT3</th>
<th>PROGRES GRYPHAX® SUBRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight: ~ 600 gr</td>
<td>Weight: ~ 400 gr</td>
</tr>
<tr>
<td>Dimension: L x W x H in mm</td>
<td>Dimension: L x W x H in mm</td>
</tr>
<tr>
<td>89 x 84 x 93</td>
<td>85 x 75 x 50,2</td>
</tr>
</tbody>
</table>

PROGRES GRYPHAX® Packaging advantage:

✱ Lower transport costs due to less weight and dimension of housing and camera packaging.
Summary

PROGRES GRYPHAX® SUBRA advantages at a glance:

🌟 Effective photon to electron transformation
🌟 Less illumination
🌟 Very short exposure times
🌟 Large pixel size
🌟 Global shutter
🌟 Secure investment: long-lasting & reliable hardware
🌟 Microscopy-optimized field of view
🌟 Cost-efficient TV adaption 1x are suitable
🌟 Video speed at live image: “You get what you see”
🌟 Real-time appearance of EDF/ Z-stacking images saves time.
🌟 Real-time appearance of Panorama image saves time.
🌟 Cross-platform compatible WIN, MAC and LINUX
🌟 Identical GUI across WIN, MAC and LINUX platform
🌟 Lower transport costs.

Refine every microscope workstation with PROGRES GRYPHAX® SUBRA.

The essential solution for routine applications

Focus your activities on our new product portfolio PROGRES GRYPHAX®.

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