New Developments at Axiogenesis

Dr. Ralf Kettenhofen

09.06.2016 Hamamatsu User Meeting

Barcelona, Spain

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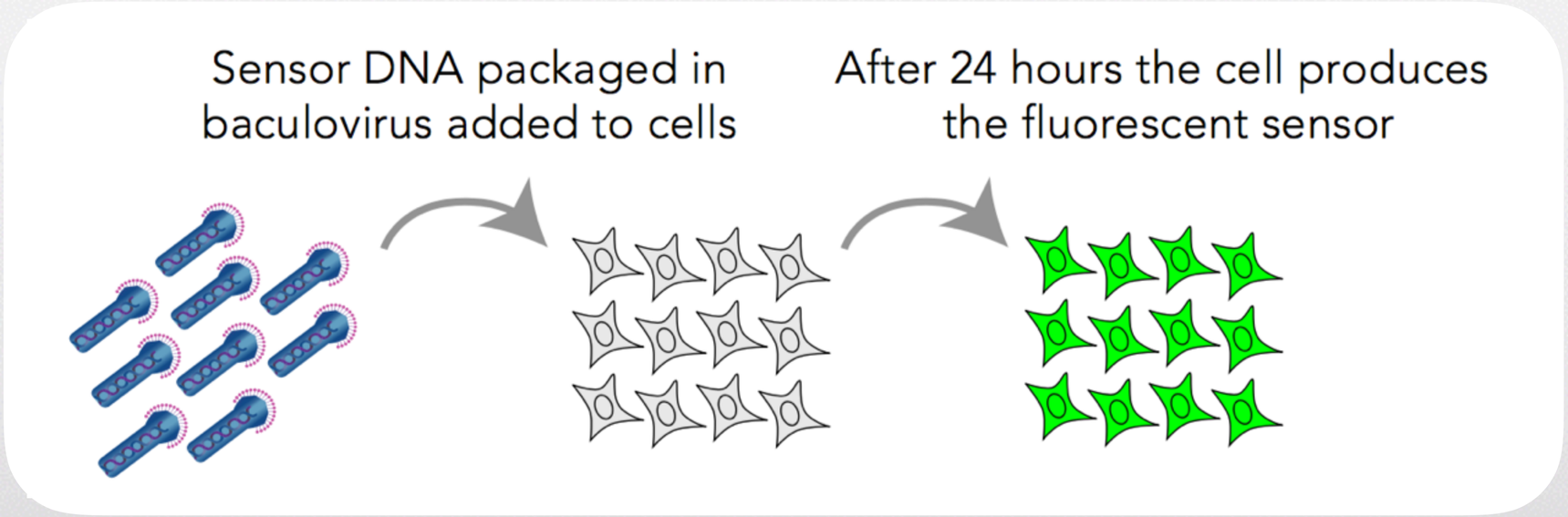
- Optogentics
- Contraction Force - The Cor.4CE System
- Matured Cor.4U Cardiomyocytes

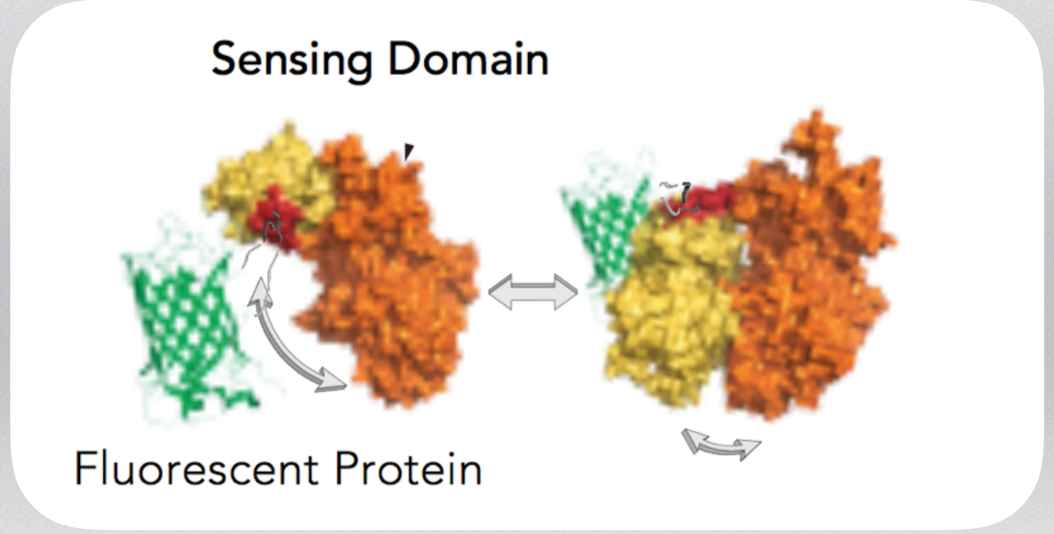
Optogenetics

Encoded Calcium Sensors

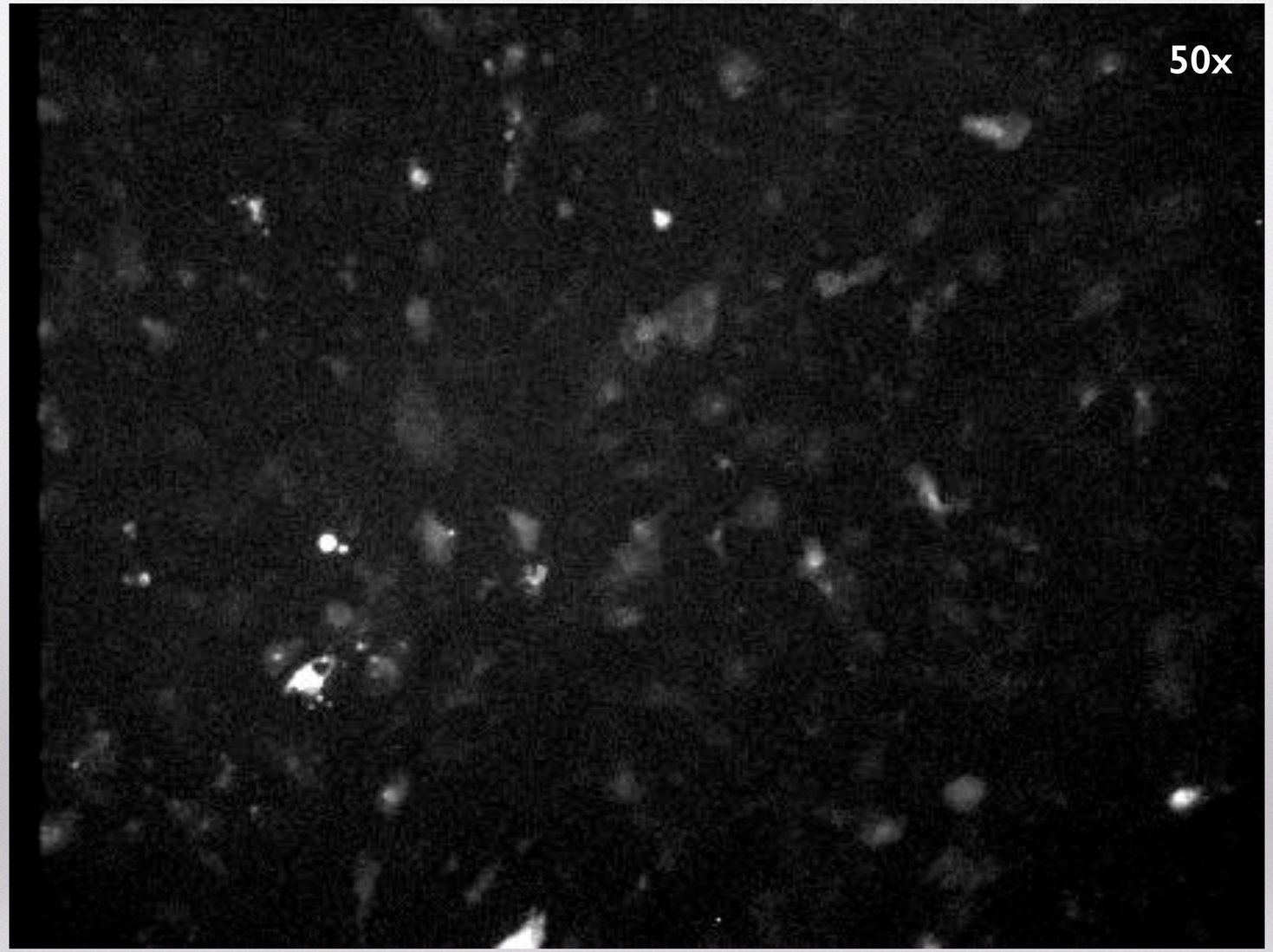
•Presented for:

Baculovirus Transduced Gene Delivery and the Fluorescent Sensor





Baculovirus Transduced Cor.4U Cardiomyocytes - Fluorescent Microscopy

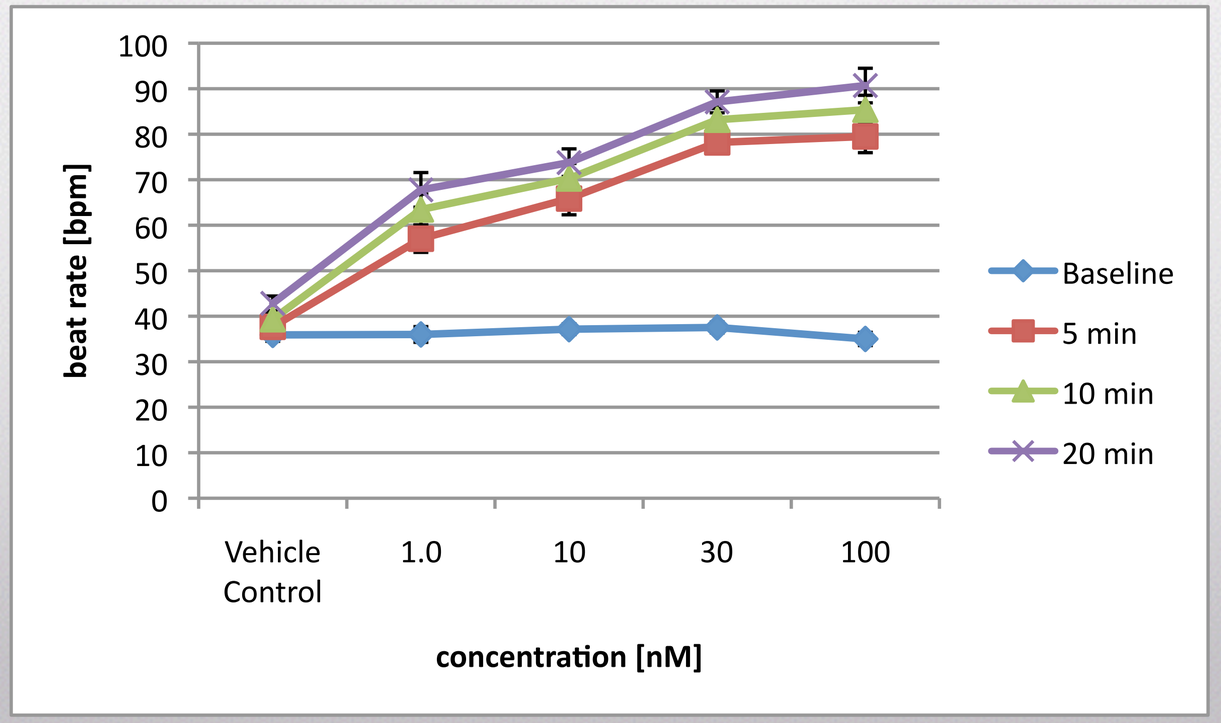


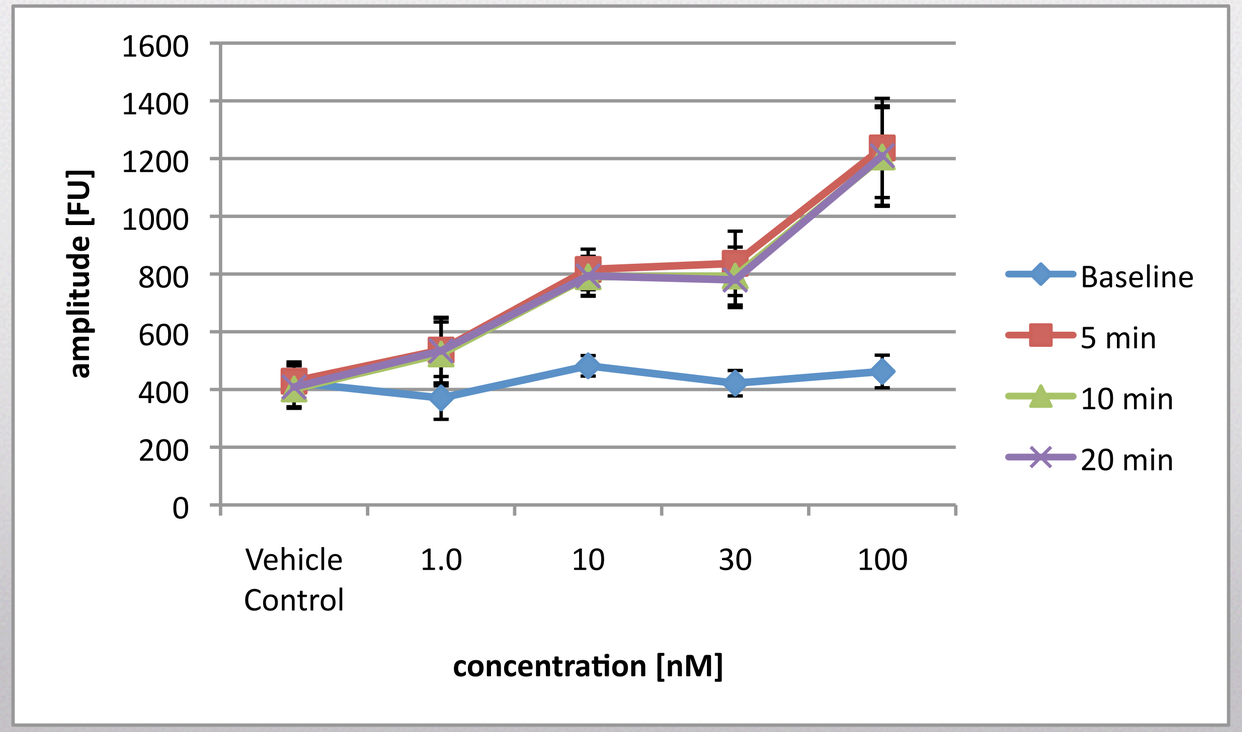
3d after transduction

First Recordings in the FDSS 7000EX

3d after transduction

Isoproterenol





Encoded Calcium Sensor Modified Cor.4U Cardiomyocytes

- Quality control of cells before start of assay.
- Long-term recording and study of chronic toxicity in Cor.4U cardiomyocytes become possible in the FDSS

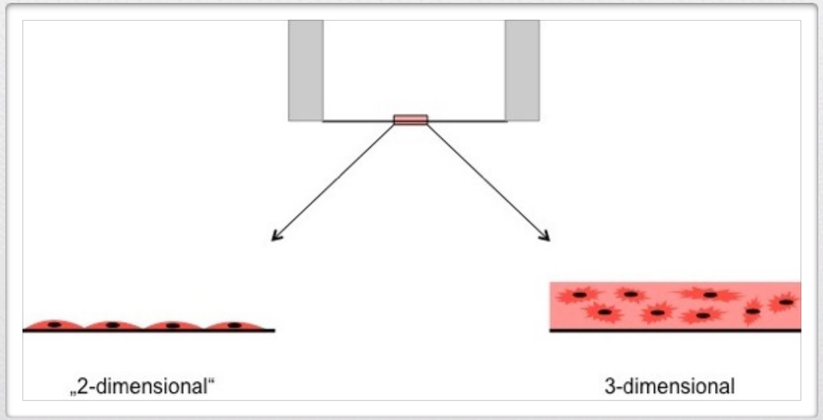
  => Requirements are:
  - Measurement in the FDSS under sterile conditions (with lid)
  - Cell culture condition in the FDSS (CO_2 + humidity) or attachment to a cell hotel
  - Automated repeated recording (e.g. over night)
  - Higher throughput (parallelization): bar code reader and automated recording

axioGENESIS

Cor.4CE

Cor.4U and FibroCor.4U Co-Culture

The CellDrum System



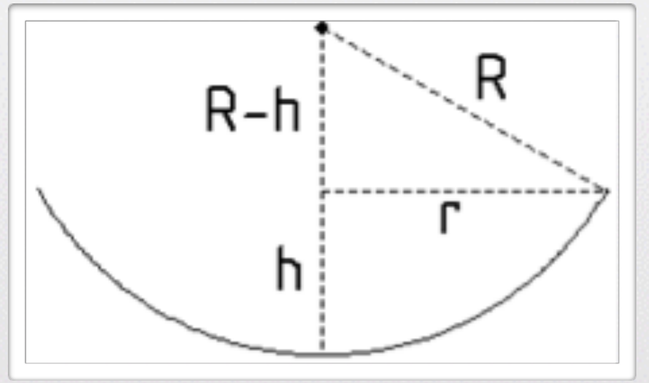
$$\sigma = \frac{p}{h} \cdot \frac{r^2}{4 \cdot s} \cdot \left(1 + \frac{r^2}{h^2}\right)$$

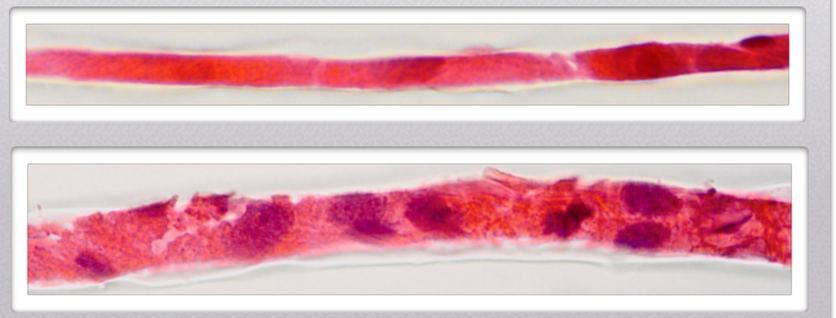
p: Pressure

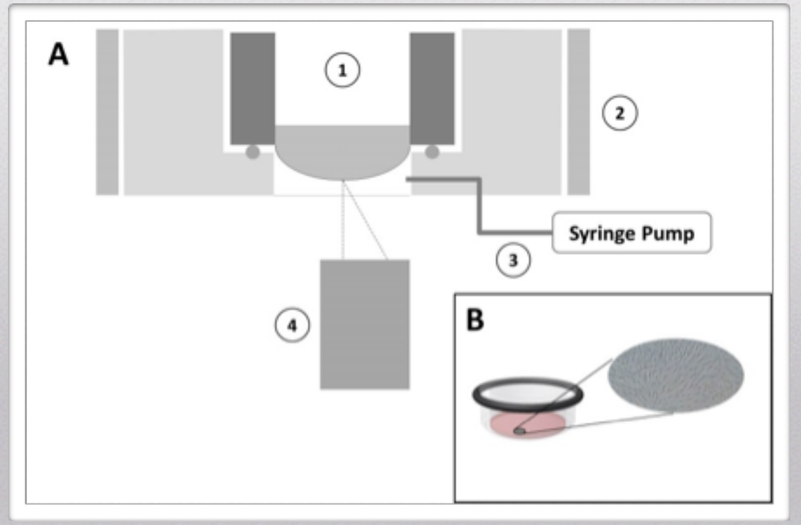
h: Deflection

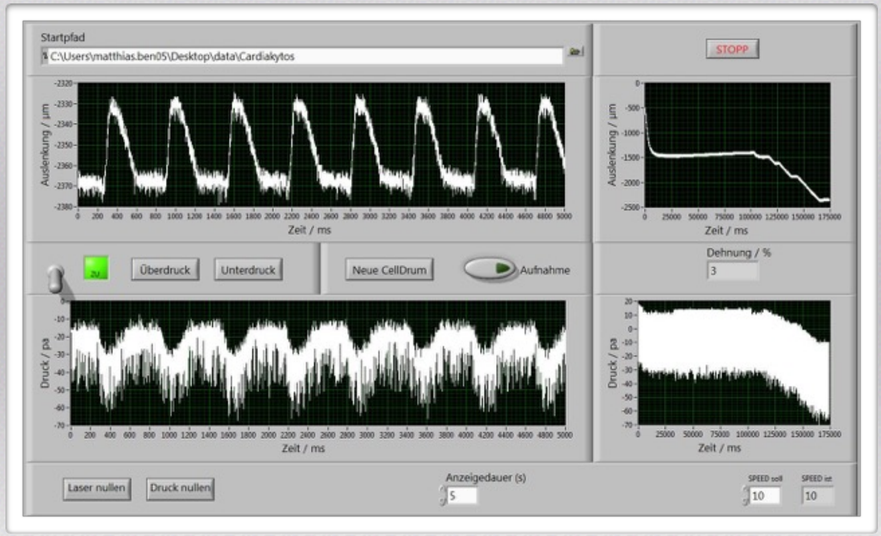
r: Radius

s: Thickness









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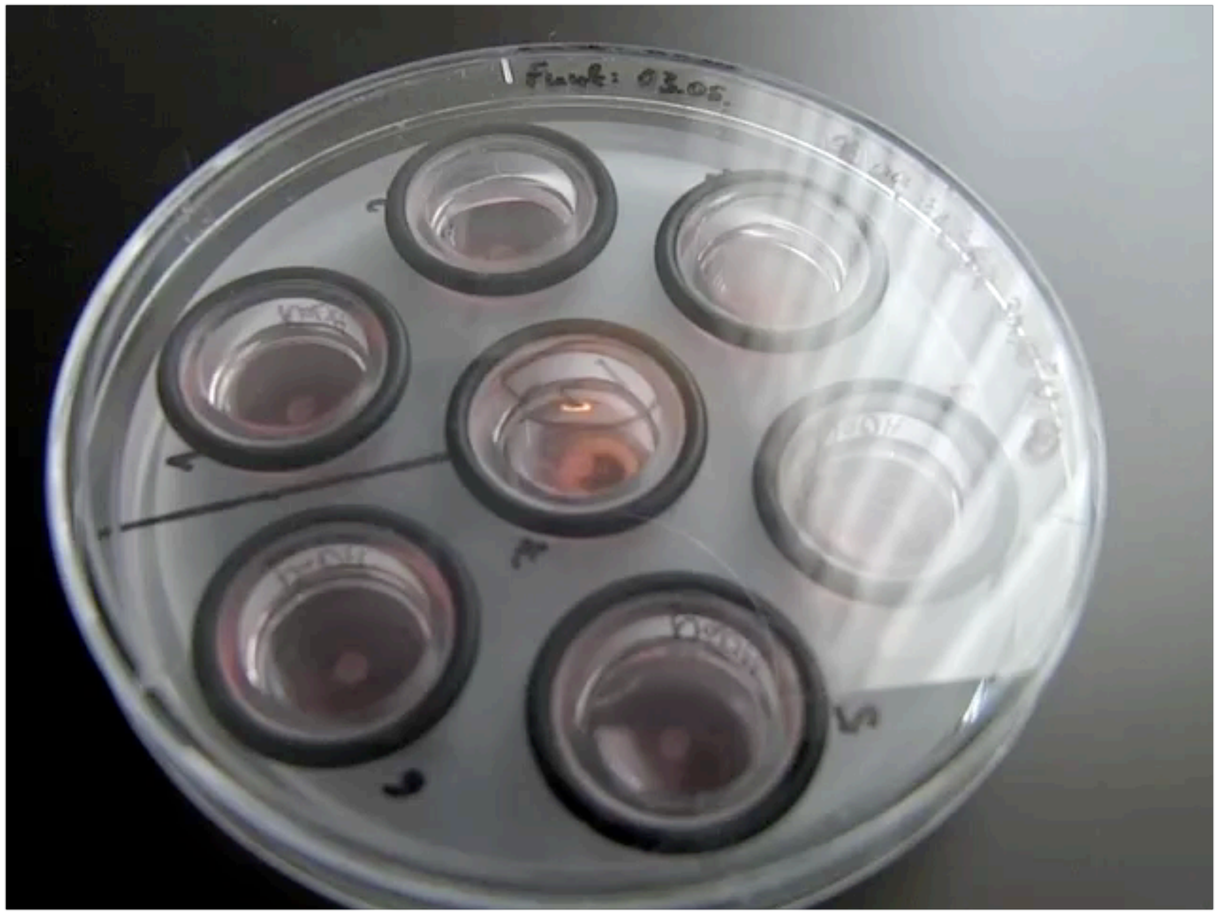
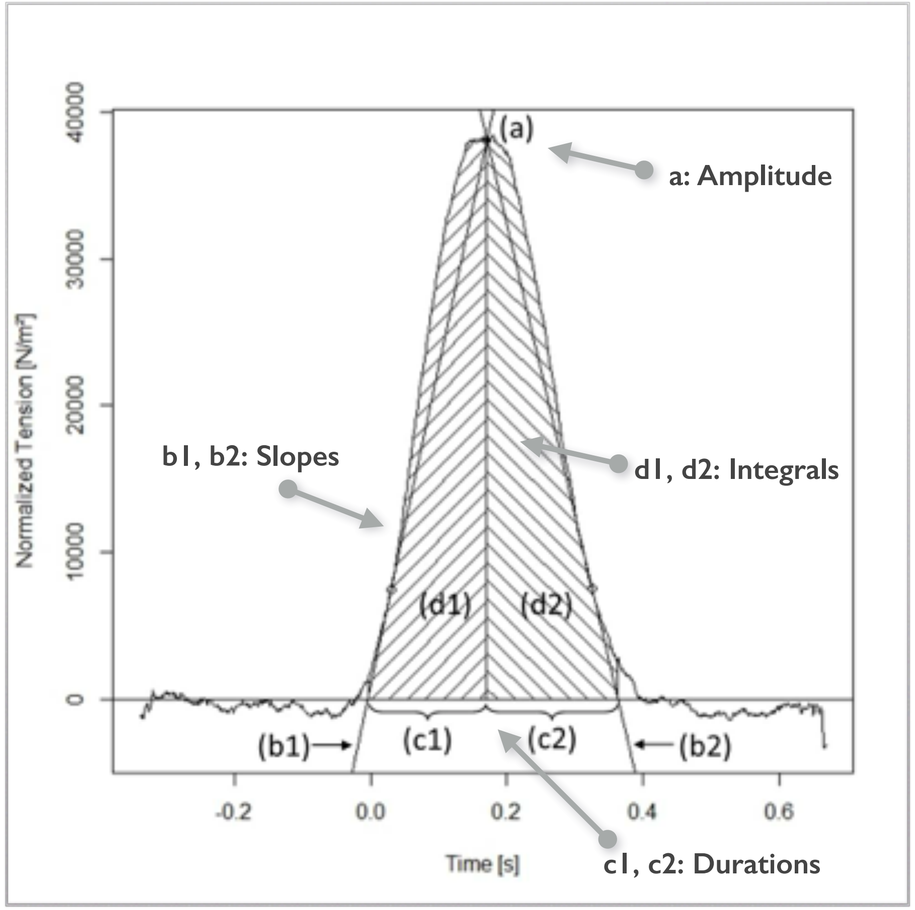
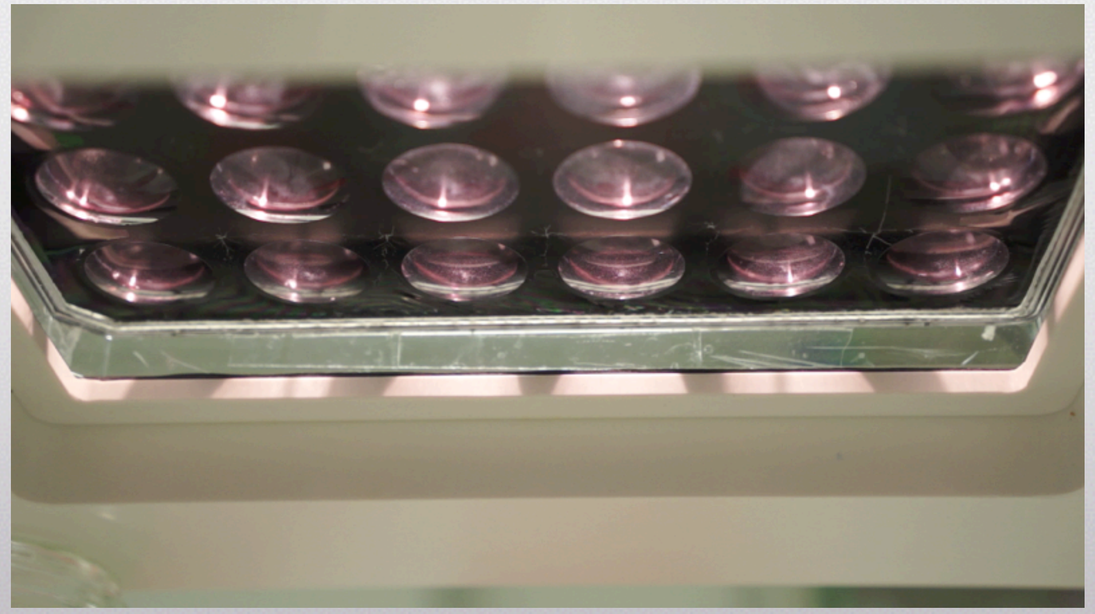




The New 24 Well CellDrum System

Top view

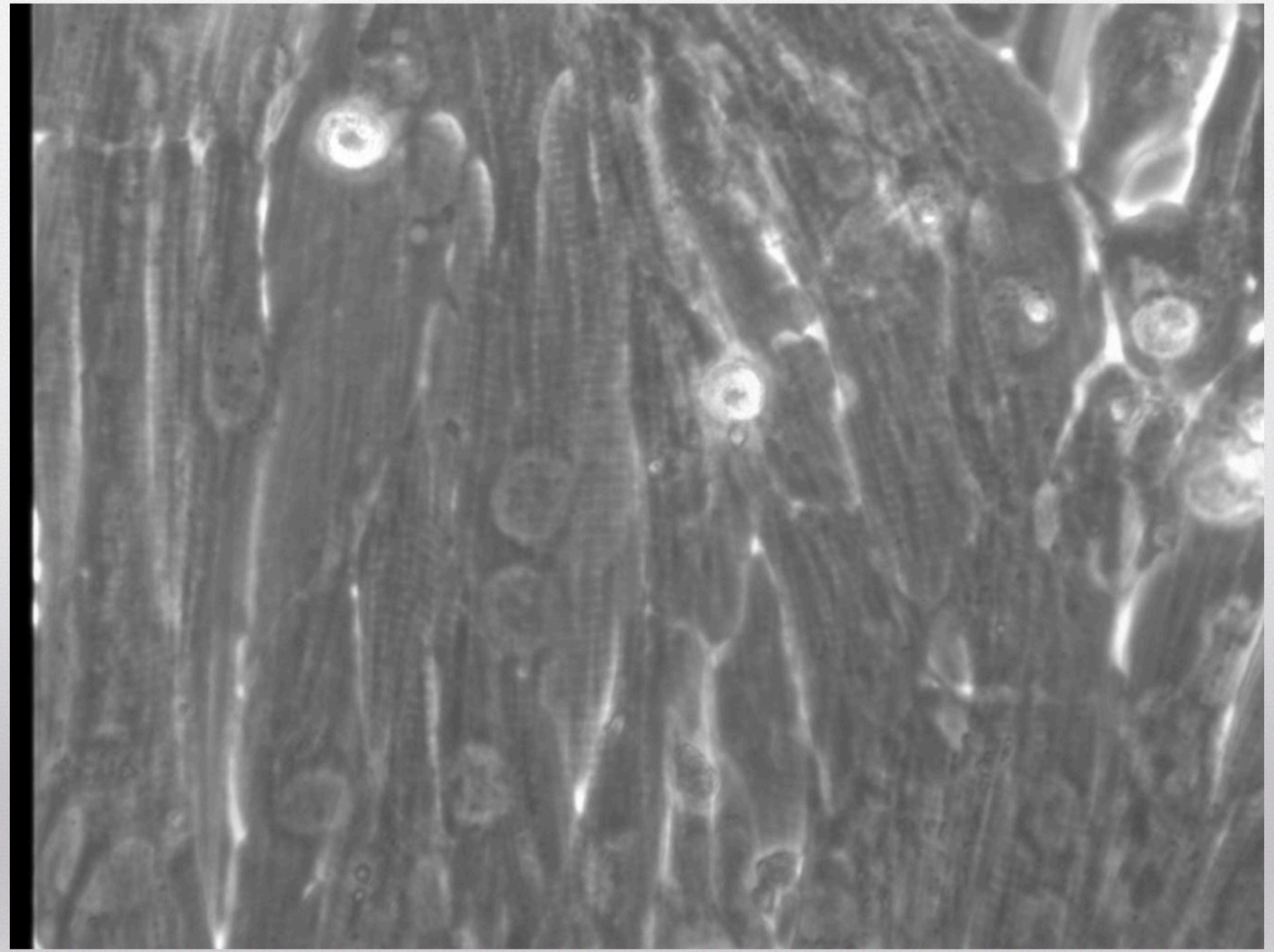
Bottom view



Matured Cor.4U Cardiomyocytes

•Presented for:

Matured Cor.4U Cardiomyocytes

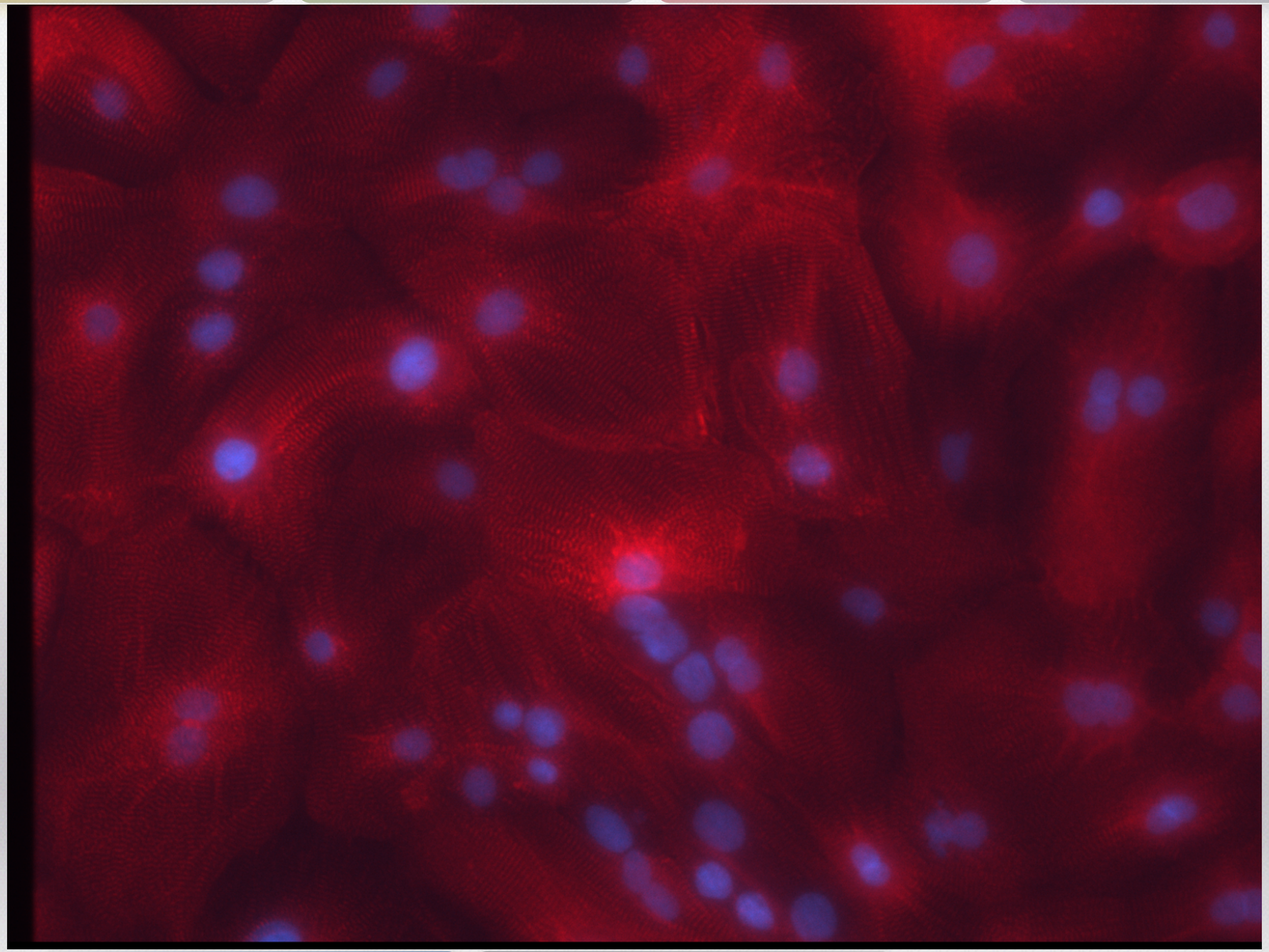


6 weeks culture on a non-stiff cell culture surface

Matured Cor.4U Cardiomyocytes

cardiac alpha actinic

nuclei



Thank you!

Axiogenesis AG
Nattermannallee 1
50829 Cologne
Germany

www.axiogenesis.com
info@axiogenesis.com
order@axiogenesis.com

tel: +49 221 99 88 18 - 0
fax: +49 221 9988 18 -10