

Lionheart FX Demo Follow-up

[台中榮民總醫院]

[醫研部]

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林婷婷

Field Application Scientist

lint@biotek.com



LIONHEART|FX
automated microscope

Think Possible

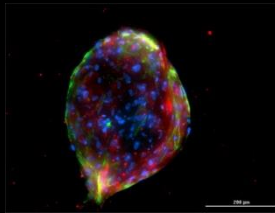
BioTek

Feature Highlights of the Lionheart FX

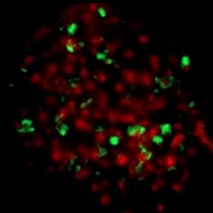
| Features | | Benefits |
|---|---|--|
| Field-based Ph.D. level scientists, Technical Assistance Center | ✓ | Allows quick implementation and optimization, with ongoing support |
| 6-position automated turret, 1.25x to 100x oil immersion objectives | ✓ | Covers a broad range of sample biologies |
| 6-1536 well plates, slides (standard and chamber), Petri dishes (35-100 mm), flasks (T25, T75), microfluidics, perfusion chambers | ✓ | Easy image capture from samples in a wide variety of vessels |
| Dual reagent injectors | ✓ | With inline angled tips for fast inject/image assays |
| Gen5 Software | ✓ | Easy acquisition, powerful analysis and processing tools. Simple and reproducible data. |
| Environmental controls | ✓ | Temperature, CO2/O2 and humidity for successful live-cell imaging workflows |
| Modularity | ✓ | Add to the system as assay needs change |
| Augmented Microscopy | ✓ | Automated capture, process and analysis for publication-ready images and quantitative data |



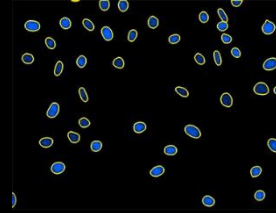
Imaging Applications (Optional)



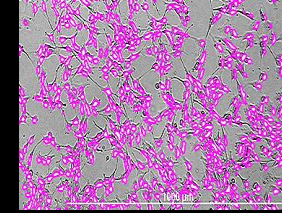
3D Cell Culture



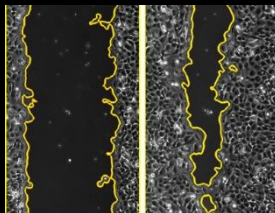
Apoptosis



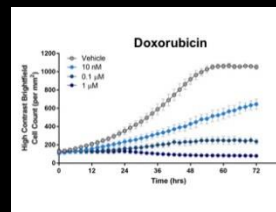
Cell Counting



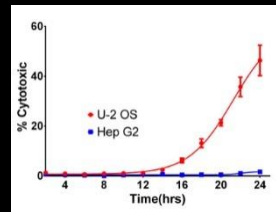
Cell Counting: Label-Free



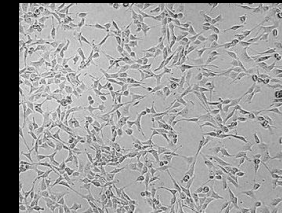
Cell Migration/Invasion



Cell Proliferation



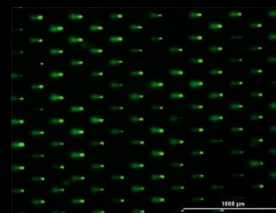
Cell Viability/Toxicity



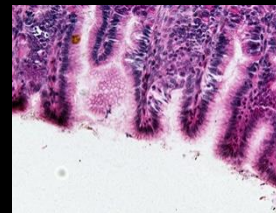
Confluence



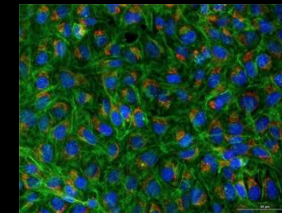
Fast Kinetics



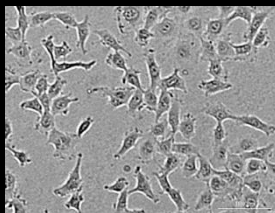
Genotoxicity



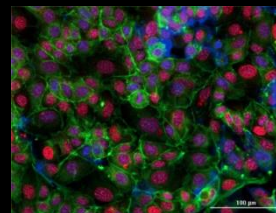
Histology



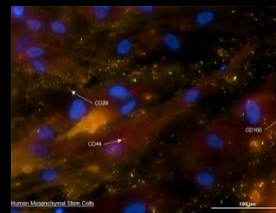
Immunofluorescence



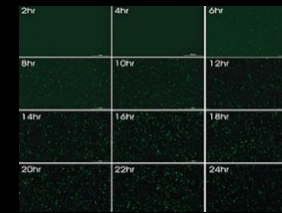
Live Cell Imaging



Phenotypic Assays



Stem Cell Differentiation



Transfection Efficiency

Capture

螢光染色切片

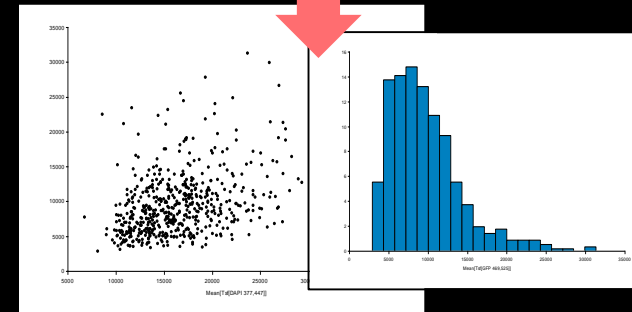
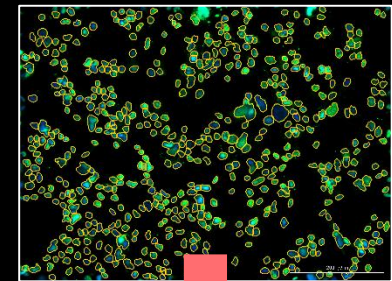
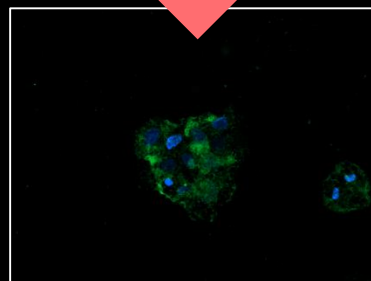
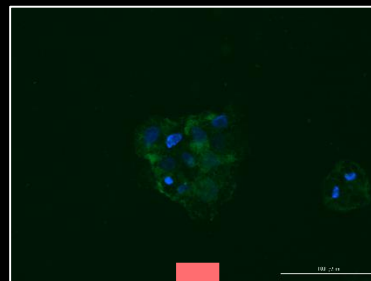
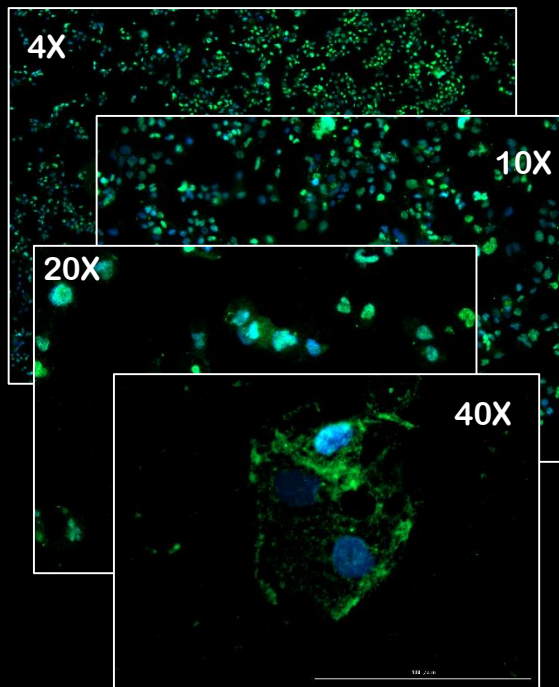
- 4X, 10X, 20X和40X物鏡
- DAPI和GFP

Process

去背景值處理

Analyze

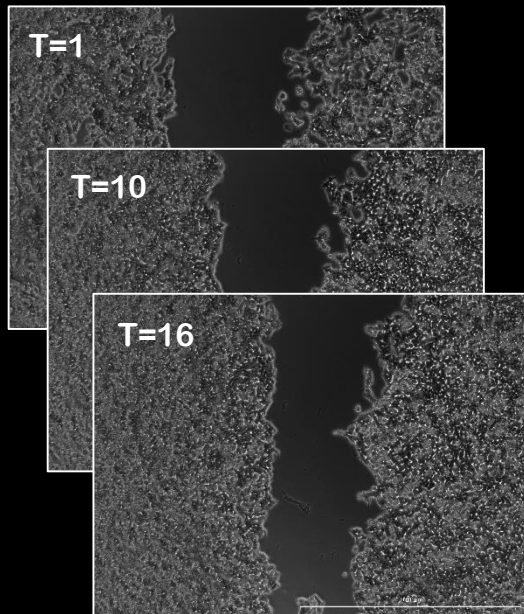
Cell Counting
螢光定量



Capture

Wound Healing

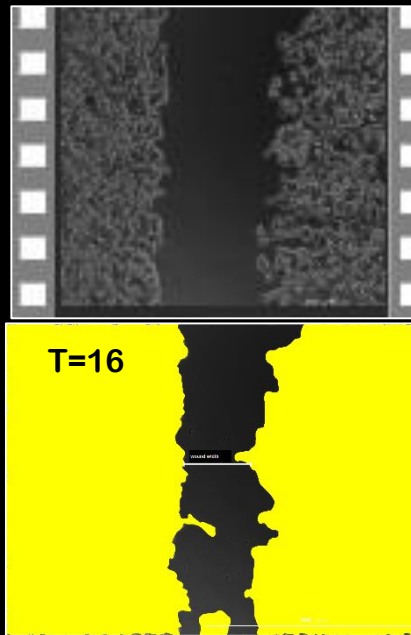
- 4X phase in 6-well plate
- 16 hours, interval 1 hr



Process

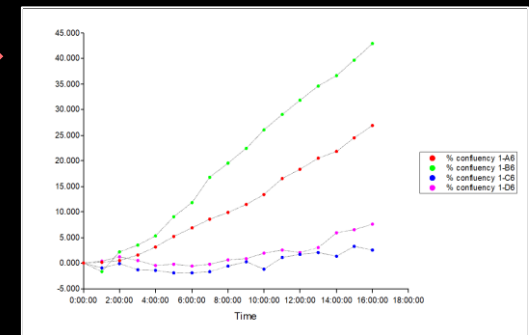
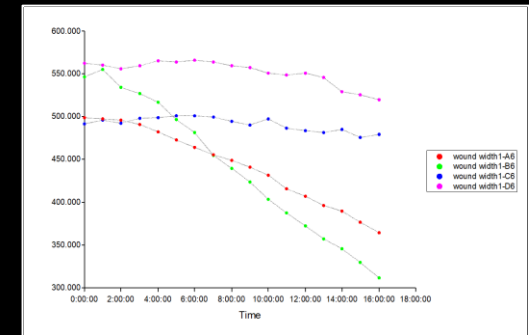
動態影片製作

- WMV
- MP4



Analyze

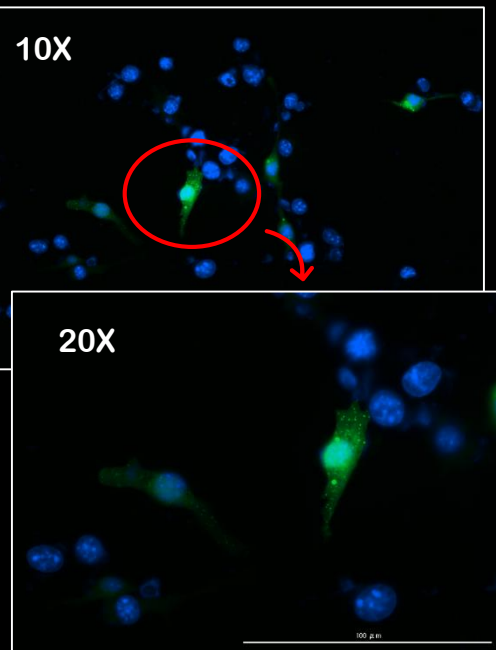
- Wound width變化
- Confluency %



Capture

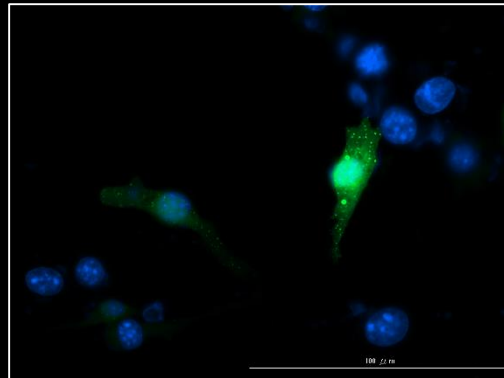
LC3 puncta 螢光染色

- 10X和20X
- DAPI/GFP



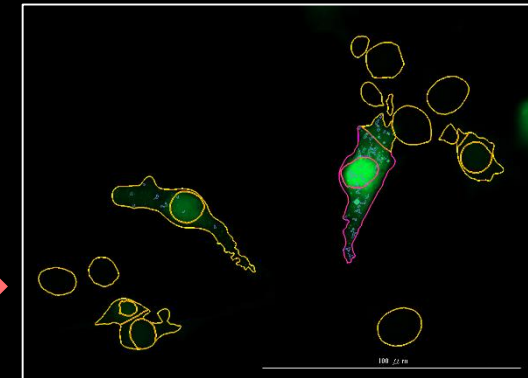
Process

- 去背景值
- 線條銳利化



Analyze

Spot Counting



- Total Spot counting: 37 spots
- 3 cells shows Spots
- 1 cell shows Spots > 10 (Pink label)

Capture

Red Blood 螢光染色

- 100X oil
- GFP/RFP
- Z-Stack



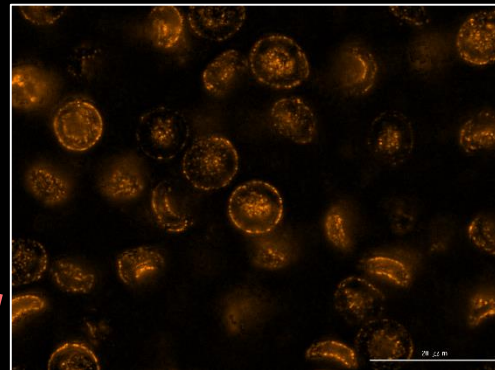
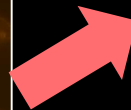
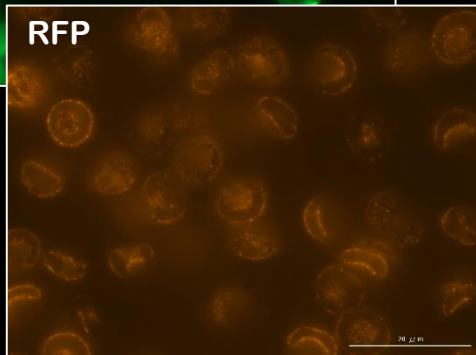
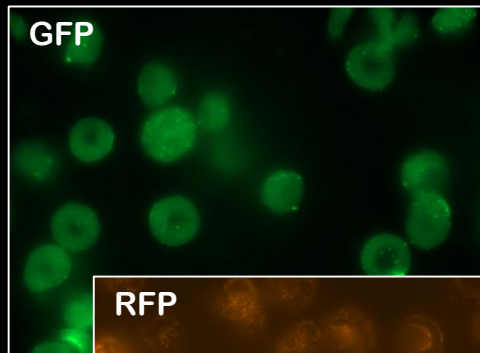
Process

- 去背景值
- Z-project (疊圖)



Analyze

NA



Capture

Zebra Fish

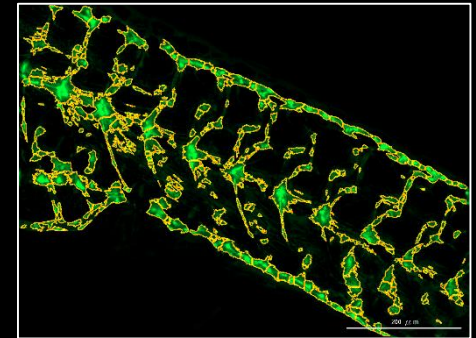
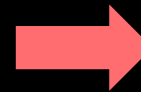
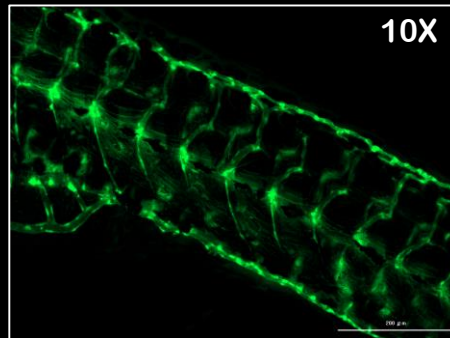
- 4X/10X物鏡
- 96 well microplate
- Montage
- 明視野+GFP

Process

- Stitching
- 去背景值

Analyze

- 螢光定量
- 面積定量



| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----------|----------|----------|----------|----------|----------|
| | 12.2 | 12.7 | 10.1 | 16.1 | 12.3 | 14.1 |
| | 143 | 157 | 93.9 | 272 | 147 | 186 |
| | 5.94E+04 | 4.83E+04 | 7.42E+03 | 1.09E+04 | 2.21E+04 | 9.51E+03 |
| | 8321 | 8383 | 6680 | 7773 | 7953 | 6791 |
| A | 3598181 | 3820335 | 1706445 | 6219440 | 3482038 | 3494014 |
| | 1.49E+08 | 1.18E+09 | 1.35E+08 | 2.49E+08 | 5.22E+08 | 1.78E+08 |

- 螢光平均值定量
- Total Area面積定量

Capture

螢光染色切片

- 4X物鏡
- Montage
- DAPI+GFP

DAPI

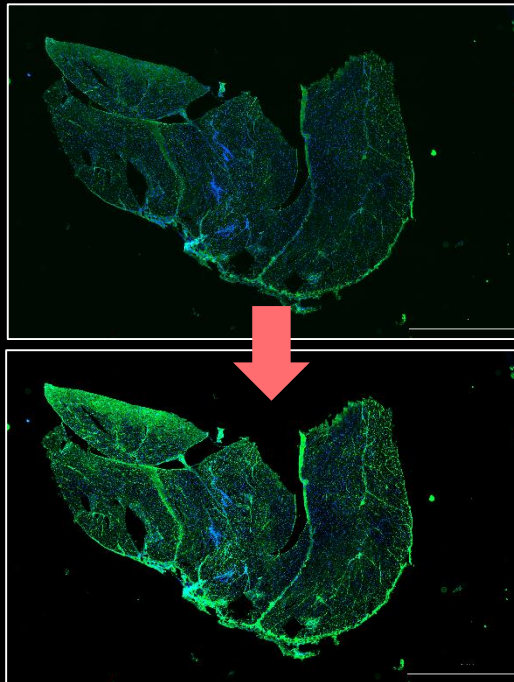
GFP

Process

- Stitching
- 去背景值

Analyze

NA



Capture

螢光染色切片

- 4X物鏡
- Montage
- PI



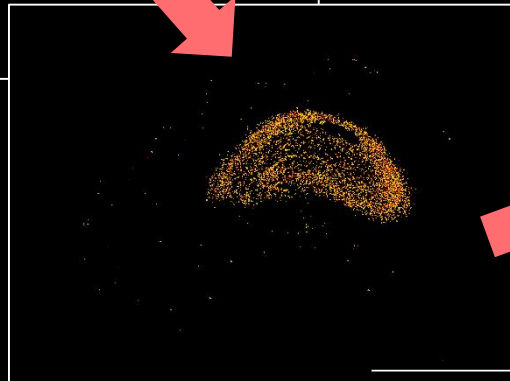
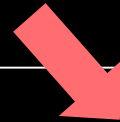
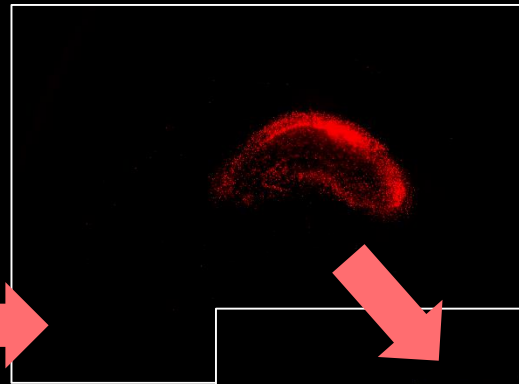
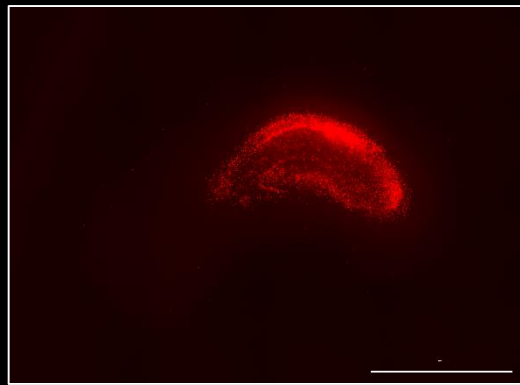
Process

- Stitching
- 去背景值



Analyze

- 螢光平均值定量
- Spot count



| Name | Value |
|--|----------|
| Cell Count | 4429 |
| Object Size | 11.3 |
| Object Area | 136 |
| Object Sum Area | 6.01E+05 |
| Object Mean[Tsf[Stitched[Propidium Iodide 531,647]]] | 11515 |

- Lionheart FX 可提供1.25X-60X物鏡影像拍攝，與60X and 100X油鏡
- 各種螢光影像拍攝(共20+螢光濾鏡可選)
- 可拍攝長時間細胞影像，並提供Kinetic分析
- 操作介面簡單，客戶可自行操作
- 也適合客戶上Confocal顯微鏡之前，可自行於此機器上機觀察樣本

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