Quantification of fiber production by preadipocytes

Adipose Tissues • 2D Cell Models • High Content Screening • Automatic Detection • Dermatology

YOUR NEEDS

- Monitor pre-adipocytes differentiation
- Monitor the fibro-inflammation process (collagen, fibronectin)

OUR SOLUTIONS

- Fully automatic imaging and image analysis
- Robust data, short delay and cost-saving

General Procedure

DIVA EXPERTISE

Cell isolation, culture and labelling supported by DIVA Expertise

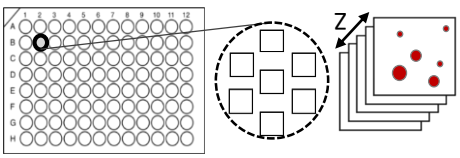


Image acquisition:

- Acquisition done with structured light or confocal microscopy
- Several fields of view to maximize the amount of data
- Image stack for each field of view to get each cellular structure on their focal plane

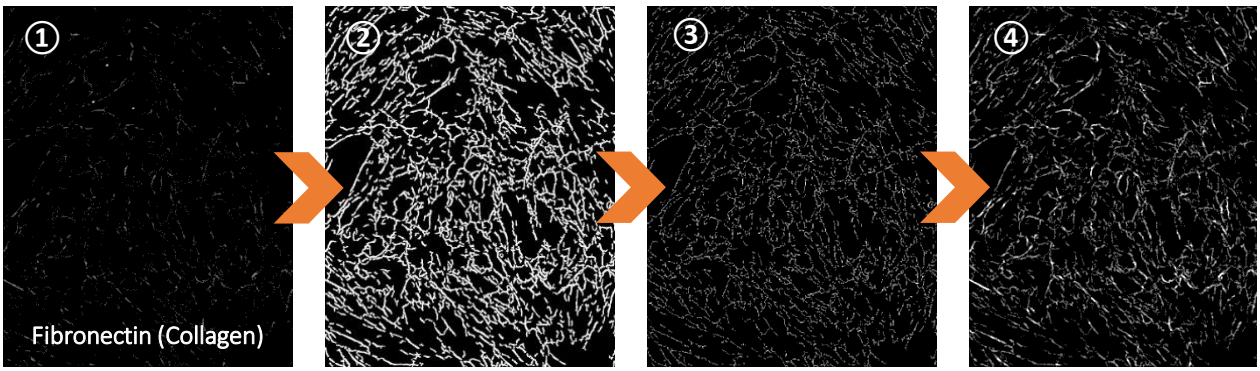
Image processing:

① Detail of an image after acquisition with spinning disk confocal microscopy

② Denoising and segmentation of every fiber

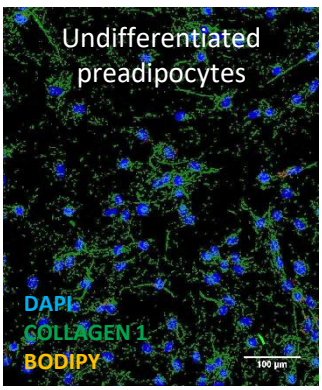
③ Refining the segmented object and calculating the criteria: **total fiber length**, **thickness of fibers**

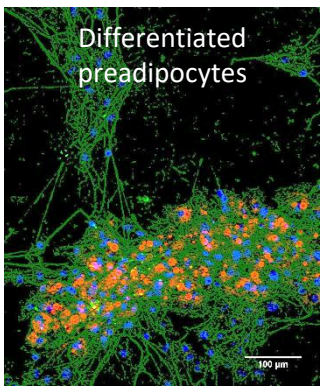
④ Automatic generation of illustrative images for every field of view

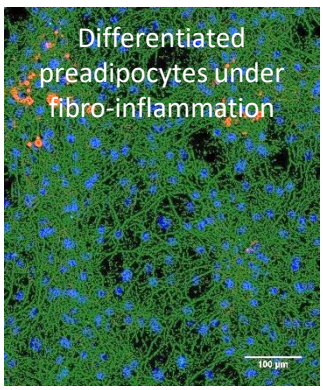


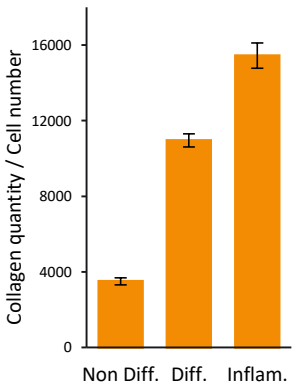
Application example

During weight gain, adipose tissue is characterized by the presence of low-grade inflammation and matrix remodelling. This leads to a greater tissue stiffness and to resistance to weight loss.









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