S.CORE
Online Image Analysis

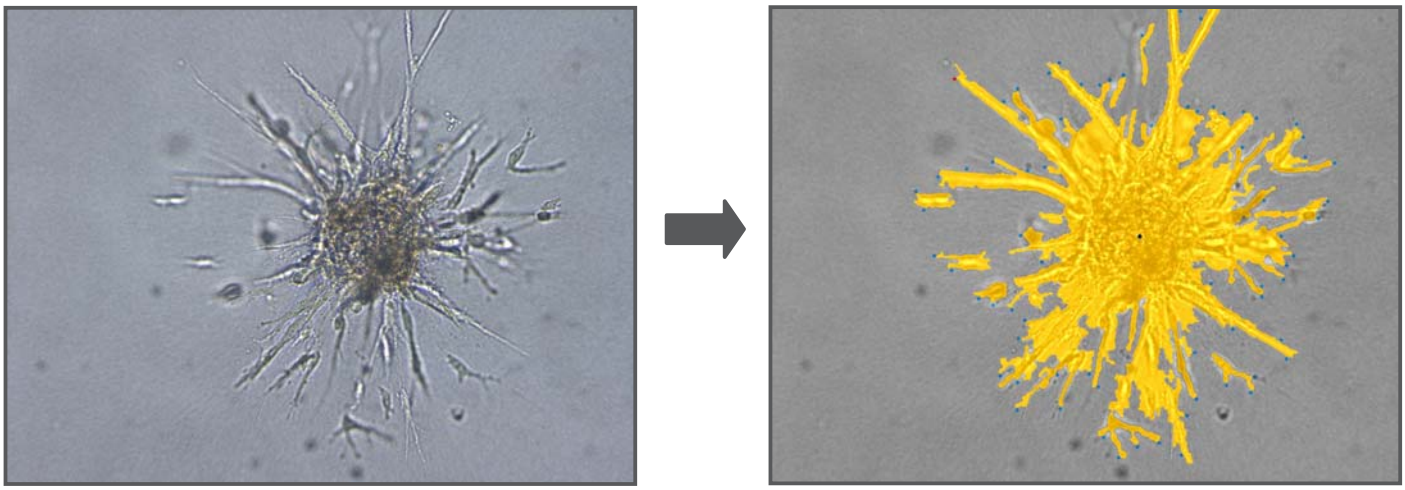
Automatic Image Analysis with S.CORE

Automatic - Objective - Accurate

Module

Sprouting Assay

Free Trial
www.sco-lifescience.de/trial.php5



Source: R&D Beiersdorf AG, Hamburg

Benefit from an automatic and quantitative analysis of your sprouting assay with S.CORE.

All you need is a PC with internet connection; S.CORE does not require any additional installation of hard- and software.

We establish a personalized internet portal for you, through which you can access the central analysis unit at any time. Just take your images as you are used to, with the system available in your lab. Then upload them via internet to our analysis unit. The extracted results will be available on your internet portal shortly after.

Further Information on our specific module “sprouting assay” is available on the next page.

But S.CORE is even more powerful: We are happy to develop individualized solutions for automatic analysis of all kinds of assays – at an attractive price.
Further information is available under www.sco-lifescience.com.

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by S.CO LifeScience

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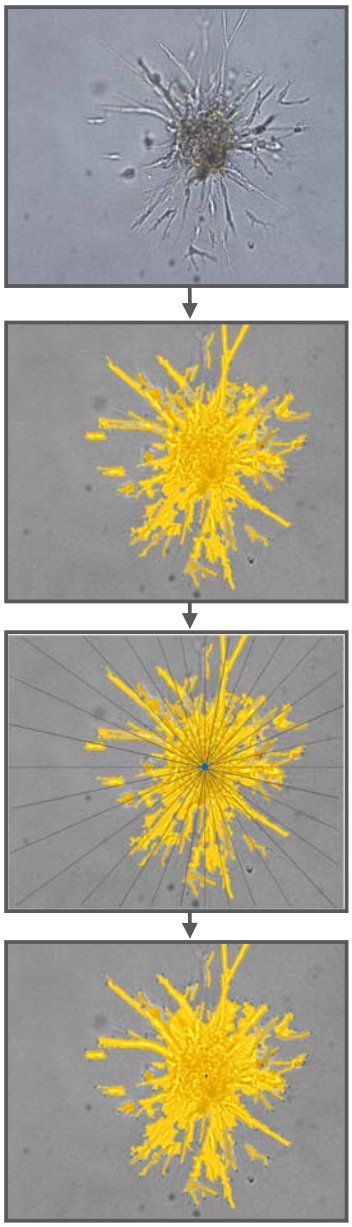
Analytical steps of our module „sprouting assay“



Step 1: Original image

You take the digital image of your sprouting assay – exactly the way you are used to. In general, there are no special requirements regarding image quality. Even shadows and artefacts as small dirt particles or cell fragments usually do not compromise the quality of our analysis

Step 2: Object recognition

Object recognition by S.CORE is based on the first-class Cognition Network Technology of our partner Definiens AG. This technology guarantees a clear and robust separation of cellular parts from background..

Step 3: Morphometric classification

In a first step, the center of gravity of the structure is determined (blue). Afterwards, a virtual corona is created with rays of clearly defined angles. On each of these rays, the intersections with the perimeter of the cellular structure are determined. Whenever there is more than one intersection on one ray, only the outer one is considered (blue in picture Step 4). Of all those intersections, the one with the largest distance to the center is marked red (see picture Step 4).

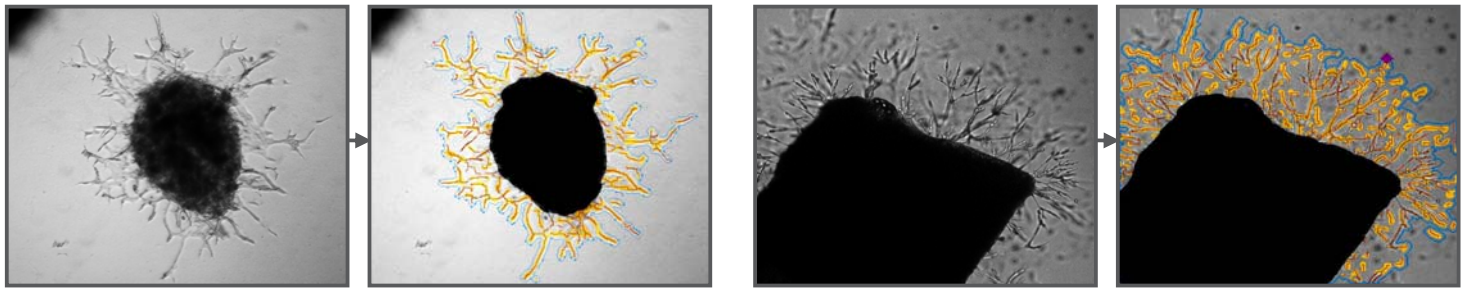
Step 4: Morphometric characterization

To quantify the sprouting, the following parameters are measured and given as output:

- Total area of the structure
- Mean distance of all intersections (blue) from the center of gravity (red)
- Maximal distance of the outer intersections (blue) from the center of gravity (red)
- Variance of the distance of the outer intersections from the center of gravity
- Index for compactness = Area of cellular parts / Perimeter of the cellular structure

Alternative with morphometric identification of individual sprouts

In cases with a clear outline of the sprouting element –as in the case of the **aortic ring sprouting assay** – the run and the ramification of individual sprouts can be detected. This allows the quantification of the total length of the sprouts and the degree of ramification, for instance.



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