Automated analysis of morphology attributes of PSCs in adherent and suspension culture

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Method: (i) Entropy filtering, (ii) Otsu Thresholding, (iii) Colony border identification, (iv) Halo/Edge artefact correction

Adherent (2D)

Image filtering

Otsu threshold

The image analysis software quickly provides an automated cell quantification expressed as a percentage of the overall image area. Scale bar: 1mm.

Manual vs. Automated Analysis: Confluency measurements from images at high/low magnification

Inter-operator variabilities up to 35% are observed which highlights the requirement to automate and standardise assessment of morphology quality attributes and increase process consistency.

Aggregate (3D)

Image analysis algorithm for the reliable and automated quantification of cell confluency in 2D culture

Remarks

- Image analysis algorithm for the reliable and automated quantification of cell confluency in 2D culture
- Automated analysis of 3D cell aggregate sizes
- Can be easily adopted for process control in real time
- Potential for greater consistency and control of PSC manufacturing processes.

References:
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