FLOW IMAGE ANALYSIS OF PROTEIN AGGREGATES PARTICLE SIZE, SHAPE AND COUNT

OCCHIO BIOTECH
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www.occhio-biotech.com
INTRODUCTION

- OCCHIO is collaborating with university of liege
- OCCHIO inherits of more than 15 years experience in:
  - Digital image analysis
  - Optical microscopy
  - Industrial vision
  - Statistical data analysis

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IMAGING SOLUTIONS IN PARTICLE ANALYSIS (SIZE / MORPHOLOGY / COUNTING)

- ZEPHYR for powders (range 20 µm – 30 mm)

- OCCHIO 500nano (dry & wet analysis; 0.4µm – 3 mm)

- OCCHIO Flowcell FC200 line (WET 0.2 µm – 1mm)
ABSOLUTE COUNTING OF PROTEIN SUSPENSION IN THIN CELL USING HIGH RESOLUTION IMAGING TECHNOLOGY

- FC200S-IPAC to reach the goal
  (Particle size range 0.3 µm – 1000 µm)
Specifications

- Particle counting: Particle number/mL
- Morphology filters (aggregates, bubbles, oil droplet, fibers)
- Relative or absolute counting
- Ghost algorithm for protein aggregates detection
- Pump speed function of sampling
- User choice for particle size class
- More than 52 parameters (size, morphology)
- Real pictures view
- Post treatment image analysis possible

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ABSOLUTE COUNTING OF PROTEIN SUSPENSION IN THIN CELL USING HIGH RESOLUTION IMAGING TECHNOLOGY

Classical Optical Microscopy

Occhio FC200S IPAC

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VACCINES ANALYSIS

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Sub-micronic detection of aggregates

Occhio provides a local thresholding based on local variability

Ghost detection

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### Absolute Counting of Protein Suspension in Thin Cell Using High Resolution Imaging Technology

<table>
<thead>
<tr>
<th>Size</th>
<th>Shape</th>
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<tbody>
<tr>
<td>ISO Area Diameter</td>
<td>O Bluntness</td>
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<tr>
<td>ISO Inner Diameter</td>
<td>O Roughness</td>
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<tr>
<td>Mean Diameter</td>
<td>Elongation</td>
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<tr>
<td>Perimeter Diameter</td>
<td>ISO Aspect ratio</td>
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<tr>
<td>Crofton Diameter</td>
<td>Ellipsoid Elongation</td>
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<tr>
<td>Half Crofton Diameter</td>
<td>Ellipsoid Roundness</td>
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<tr>
<td>Width</td>
<td>Ellipse ratio</td>
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<tr>
<td>Length</td>
<td>ISO Eccentricity</td>
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<tr>
<td>Ellipse Width</td>
<td>ISO Straightness</td>
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<tr>
<td>Ellipse Length</td>
<td>ISO Roundness</td>
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<tr>
<td>ISO Max Distance</td>
<td>ISO Compactness</td>
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<td>ISO Geodesic Length</td>
<td>ISO Extend</td>
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<tr>
<td>ISO Fiber Thickness</td>
<td>ISO Solidity</td>
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<tr>
<td>ISO Circularity</td>
<td>Convexity</td>
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<tr>
<td>Luminance</td>
<td>ISO Circularity</td>
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<td>Luminance variance</td>
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</table>

Available parameters: [www.occhio-biotech.com](http://www.occhio-biotech.com)
2015: PHARMASCAN
NON INVASIVE PARTICLE DETECTION

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