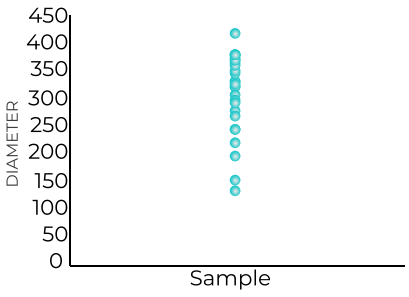
SHIFTING THE SIZE PARADIGM

W8

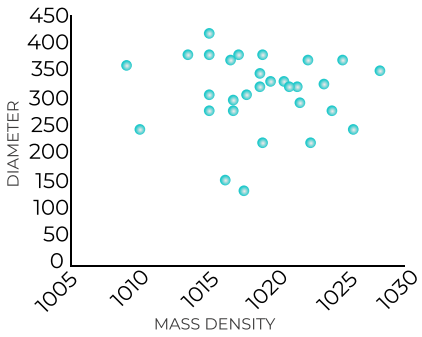
The W8 streamlines your daily routine by bringing structural quantification on 3D cell models. With unique biomarkers for compaction and structure, it offers scientists unparalleled insights into sample quality, diversity, and development, enhancing predictions on treatment effects, streamlining complex insights into accessible knowledge.

WHAT YOU KNOW



Size quantification is an essential daily practice for tracking the progression of our 3D cultures, enabling growth monitoring and uniformity evaluation. However, focusing on size overlooks the critical aspect:
Organoids are three-dimensional.

WHAT YOU ARE MISSING

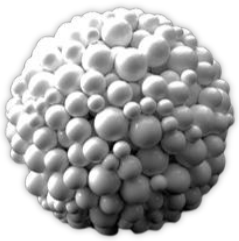


Beyond size, 3D cultures have a complex balance of cells, proteins, and densities, each playing a pivotal role in their functionality. Incorporating daily biomarker evaluations for structural perspectives shifts the paradigm, revealing the full potential of 3D cultures.

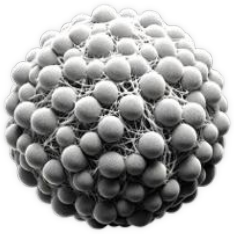
cell dynamics

GAIN INSIGHT ON

Understanding Mass Density reveals the intricacies of structural complexity in 3D cell cultures, exposing the delicate balance among cell density, ECM composition, and cavity formation.



The Mass Density of an organoid is heavily contingent upon the number of cells per unit of volume.



Mass Density variations are influenced by extracellular matrix (ECM) components.

The Mass Density of an organoid can be substantially affected by the presence or absence of cavities.

SPECIFICATIONS

OUTPUTS

Size (µm)
Mass Density (fg/µm³)
Weigth (ng)

TROUGHPUT

20 organoids / hour

RECOVERING BY

Size (µm)
Mass Density (fg/µm³)
Combined

SUITABLE FOR SAMPLES

100 - 600 µm

SAMPLE QUALITY

Sterile
Vailable
Lable Free

DATA

Easy Data Elaboration

cell dynamics

APPLICATIONS

Quantifying Structural Variation in Daily Operations: A QC Assay

This study introduces a novel, non-disruptive, and label-free approach to quantify heterogeneity in 3D cell cultures, aiming to provide quantitative insights into structural characteristics of the 3D models. This approach promises to enhance the utility of 3D cell cultures in disease modeling, drug testing, and tissue engineering by providing valuable quantitative data on the heterogeneity within the culture.

Mass Density as Cross Sectional-Related Value for Enhanced Deep Imaging Analyses Outcomes: the Impact of Precise Sample Selection.

Confocal imaging in 3D cell culture is essential but costly and complex, with a high risk of non-representative sample investment. Proper sample selection is crucial to mitigate challenges and optimize research progress.

Mass Density as Non-Invasive Biomarker for Organoid Maturation

Explore the innovative approach to follow organoids maturation through non-invasive biomarker analysis Uncovering the synergy between mass density and key biomarkers related to organoid differentiation, evolves the workflows to monitor maturation phases effortlessly.

Mass Density: A Predictive Biomarker for Cell Permeation and Cytotoxicity in Cancer Immunotherapy

This study explores the interaction between natural killer cells and colorectal cancer spheroids in a 3D environment, emphasizing how spheroid biophysical properties affect immune cell infiltration and cytotoxicity.

PAPERS

- Adipose Stromal Cell Spheroids for Cartilage Repair: A Promising Tool for Unveiling the Critical Maturation Point.
  Sargenti et All - 2023 - Bioengineering

- Characterization of Perinatal Stem Cell Spheroids for the Development of Cell Therapy Strategy.
  Paris et All - 2023 - Bioengineering

- Development of a high-throughput micropatterned agarose scaffold for consistent and reproducible hPSC-derived liver organoids.
  Shanqing Jiang et All - 2023 - IopScience

- Manuka honey in combination with 5-Fluorouracil decreases physical parameters of colonspheres enriched with cancer stem-like cells and reduces their resistance to apoptosis.
  Cianciosi et All - 2022 - Food Chemestry

- Human Astrocyte Spheroids as Suitable In Vitro Screening Model to Evaluate Synthetic Cannabinoid MAM2201-Induced Effects on CNS.
  De Simone et All - 2023 - International Jurnal of Molecular Science

- A new method for the study of biophysical and morphological parameters in 3D cell cultures: Evaluation in LoVo spheroids treated with crizotinib.
  Sargenti et All - 2021 - PlosOne

- The patented method of automated Physical Characterization of Colorectal Cancer Spheroids and Evaluation of NK Cell Infiltration Through a Flow-Based Analysis.
  Sargenti et All - 2020 - Frontiers for Immunology

- A Reliable Flow-Based Method for the Accurate Measure of Mass Density, Size and Weight of Live 3D Tumor Spheroids.
  Cristaldi et All - 2019 - Micromachines