

Enabling human-relevant data for
actionable clinical insights

chiron^x

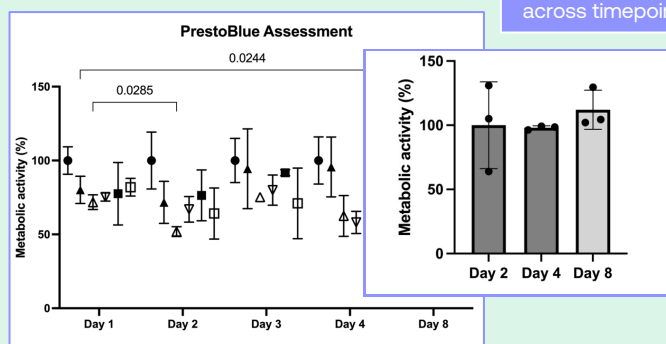
chiron is pioneering advanced in-vitro technologies,
enabling pharmaceutical innovators
to derive actionable clinical insights
before conducting preclinical testing or clinical trials



A decision-intelligence tool is only as good as its data quality— μ Mass™ is engineered for reproducibility

Biologically-consistent, statistically-reproducible results across aggregate models, assay days, and readout types

Viability and reproducibility

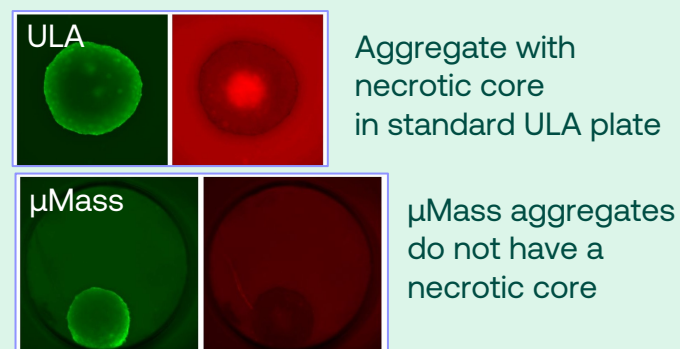


Highly repeatable cellular viability readouts: no drift across days or models

MTT and PrestoBlue cell-viability assays generated statistically consistent metabolic-activity readouts across all aggregate models and timepoints (days 1 – 8, $p < 0.05$)

*MTT: tetrazolium-based metabolic cell viability assay
*PrestoBlue: resazurin-based fluorescent cell viability assay

Aggregate morphology control

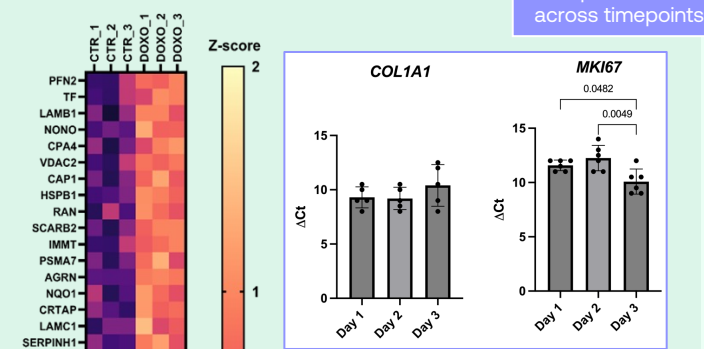


No necrotic core: μ Mass™ geometry eliminates a critical confound

Standard ULA plates develop a hypoxic necrotic core by day 3, introducing artefacts in drug-response readouts. μ Mass™ proprietary geometry maintains uniform cell viability throughout the aggregate

*ULA: ultra-low attachment plate
*Necrotic core: cell zone of hypoxic cell death in aggregate centre

Multi-omic consistency



Reproducibility of proteomics and gene expression across replicates

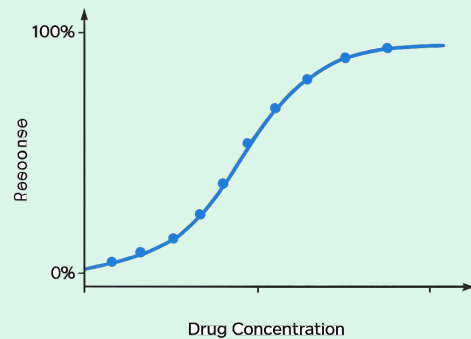
Robust LC-MS/MS proteomics results from pooled aggregates in triplicate—sufficient for biomarker-level analysis, as well as reproducible qPCR expression of genes COL1A1 and MKI67 (both $p < 0.05$)

*COL1A1: human gene encoding type-I collagen
*MKI67: cell proliferation marker (gene encoding Ki-67 protein)
*LC-MS/MS: liquid chromatography-tandem mass spectrometry

A reproducible foundation unlocks translational applications that variable, inconsistent models will not

μMass™ eliminates model variability and increases signal confidence for clinical-program decisions across indications

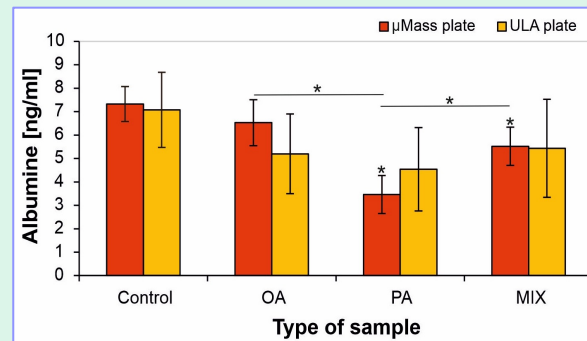
Oncology: dosing studies



Dosing studies with clear readouts

Full dose-response characterization in a single plate run. Clean sigmoid curve, no noise artefacts from aggregate variability. Statistically powered to discriminate treatment effects

Hepatology: liver dysfunction model

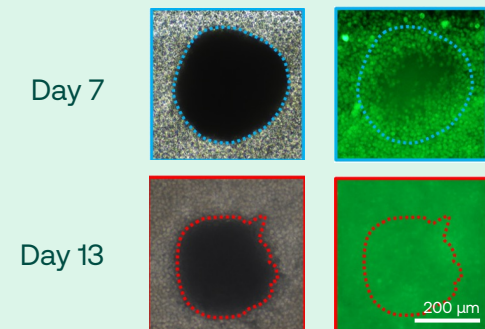


NASH, hepatic fibrosis: capturing pathology

μMass™ captures albumin secretion differences across treatment conditions that a ULA plate misses, enabling NASH and hepatic-fibrosis drug screening with readout confidence

*OA: oleic acid *PA: palmitic acid *MIX: combined fatty acid stimulus
*NASH: severe form of fatty liver disease
*ULA: ultra-low attachment plate

Immuno-oncology: immune exhaustion



Modelling solid-tumour immune exhaustion

Extended tumour-immune co-culture modelling T-cell exhaustion not achievable in standard 2D or ULA plate. Proteomic signature resolved across treatment arms

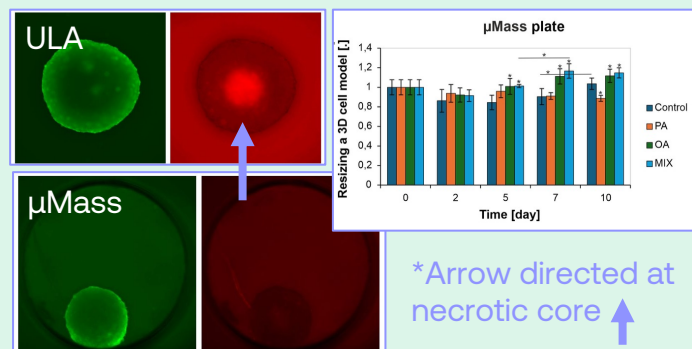
*DOXO: doxorubicin *CTR: untreated control
*Heatmap: LC-MS/MS proteomic Z-score across replicates

*Dosing window: concentration range producing therapeutic effect

What if tighter aggregate control meant the difference between detecting a disease signal and missing it entirely?

NASH tri-culture liver model (HepG2, stellate cells, and LSEC) comparison in μ Mass™ vs. standard ULA plate

Establishing a baseline



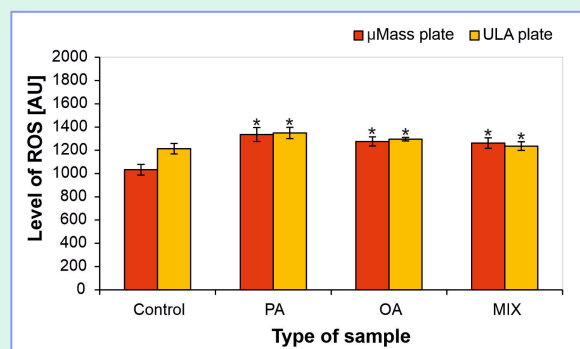
*Arrow directed at necrotic core

μ Mass™ aggregates had stable baseline and no necrotic core

μ Mass™ generated size-consistent tri-culture aggregates with no hypoxic, necrotic core and stable metabolic activity. ULA aggregates developed a necrotic core

*HepG2: human liver cancer cell line
*LSEC: sinusoidal liver cells
*ULA: ultra-low attachment plate

Readout 1: Inflammatory signal (ROS)

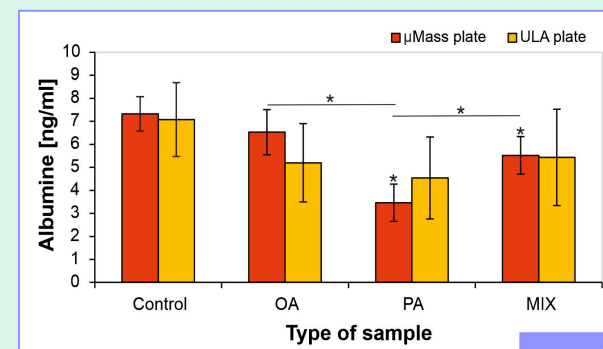


μ Mass™ resolved inflammatory ROS signal; the ULA plate did not

Reactive oxygen species (ROS) increases under fatty acid treatment were stronger in μ Mass™ than ULA, improving the separation between treated and control conditions for screening decisions

*MIX: combined fatty acid stimulus (OA & PA)
*OA: oleic acid *PA: palmitic acid
*ROS: reactive oxygen species (inflammatory marker)

Readout 2: Liver function loss (albumin)



p > 0.05 in μ Mass

μ Mass™ detection of albumin secretion loss was statistically significant

Palmitic acid (PA) induced statistically significant albumin secretion loss in μ Mass™ aggregates ($p < 0.05$), consistent with physiological liver dysfunction. ULA result not statistically significant

*Albumin: liver function biomarker; reduced secretion signals hepatocyte dysfunction
*Statistical significance: $p < 0.05$

μMass™ supports decision-making from discovery to early clinical strategy

Lead selection and optimization

(e.g. efficacy/potency assessment, MoA assessment, biomarker exploration)

Discovery

Pre-IND

IND

Clinical Trial Phases

I

II

III

IV

Indication of efficacy without humans

(e.g. efficacy—supplementary to animal data)

(e.g. efficacy—fully executed without animal models)

Cohort (pre)selection

(e.g. biomarker-driven patient stratification)

*IND: investigational new drug

*MoA: mechanism of action

How chiron turns complex biology into decision-ready data

Human-relevant platforms tailored to disease biology and study objectives

Therapeutic modality and disease-model agnostic

GLP-like processes, SOP-based workflows, and ISO-certified facilities

Built with standards in mind
Active participation in evolving MPS standardization efforts

Why work with chiron?

Human-relevant insights, for more informed decision making, resulting in lower a financial burden for drug development

Difficult-to-access insights, made measurable

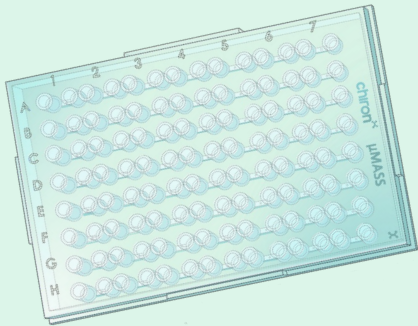
- Direct comparison of multiple treatments and donors on one platform
- Cell-therapy and advanced-modality testing where animal models are poorly predictive
- 3D solid tumour models that better capture tumour structure

More learning, at a lower cost per data point

- Generate large, comparable datasets that can be fed to predictive platforms
- Enable leaner clinical trials, reducing the development timeline
- Rapid application development and assay processing

Gain access to μ Mass™ for your program

Whether you need study execution, in-house platform access, or a tailor-made solution—chiron offers multiple ways to engage



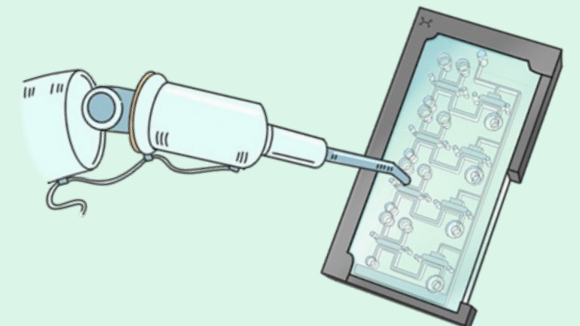
Device Sales

Device sales via technology transfer: bring μ Mass™ into your own laboratory as a consumable platform; compatible with standard workflows and equipment



Contract Research Services

Outsource studies to chiron for rapid, expert execution, generating human-relevant, decision-ready data with no internal burden



Model Co-development

Co-develop a bespoke model with chiron that fits your specific therapeutic, disease, or translational application

Thank You

