

# lunaX™

## 3D TISSUE CULTURE



### lunaXai™

**Machine Learning.**

Cloud platform with AI-assisted experimental planning and ECM stiffness control.



### cytoLED™

**Photocrosslinking Technology.**

Ultrafast photocuring, preserving cell health.



### Complete System.

16+ ready-to-use and fully optimised ECM kits, shipping at room temperature.



# Build new possibilities with the lunaXlinker system.

With Gelomics' photocrosslinking technology, you can build accurate 3D tissue culture models in a matter of minutes.





# Proprietary visible light photocrosslinking technology.

405 nm high-power LEDs provide ultrafast hydrogel formation while protecting cells, allowing the most advanced 3D cultures to be established in **<10 minutes**.





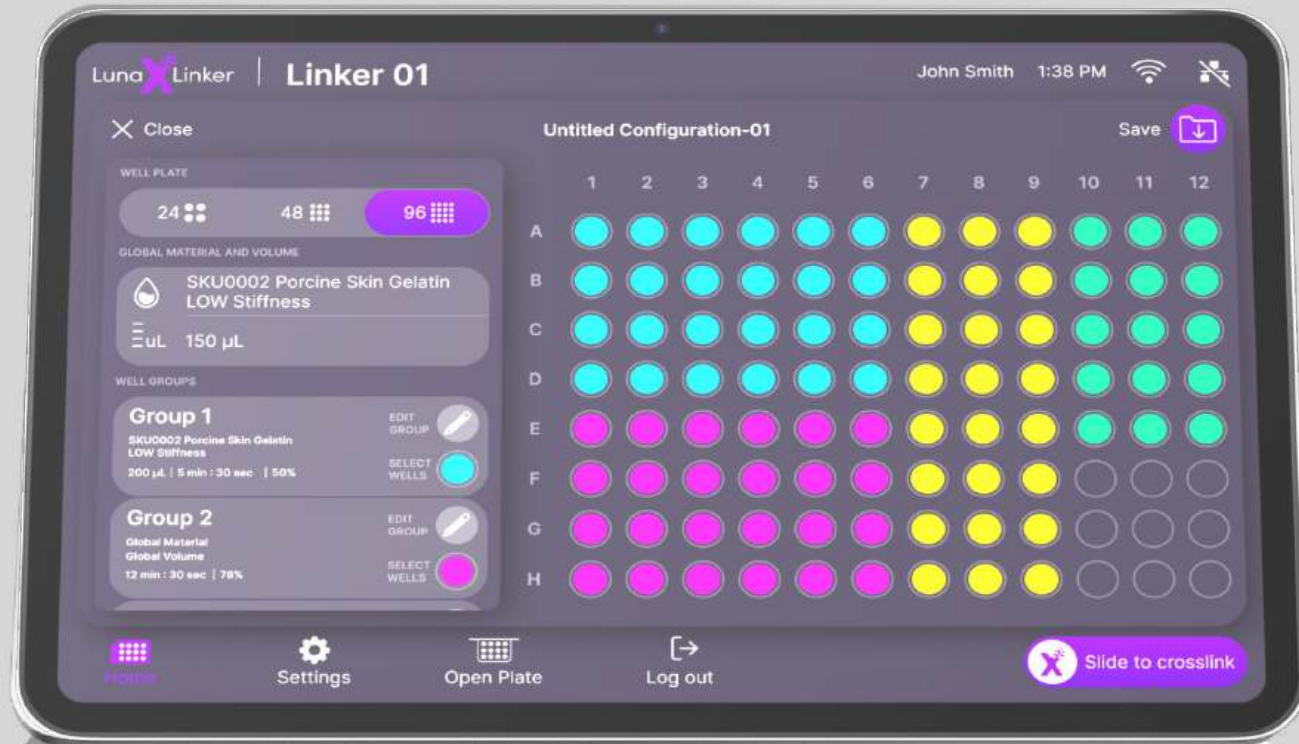
# Your cultures. Your way.

The **lunaXlinker** is equipped with dedicated cytoLED™ technology for 24-, 48-, and 96-well plates, seamlessly integrating with standard culture formats while providing unparalleled precision and flexibility in 3D cell culture.



## Impossibly floating, thin display.

The ultra-thin 10" touchscreen delivers a modern, seamless experience with an intuitive graphical interface, ensuring effortless operation and an outstanding user experience.



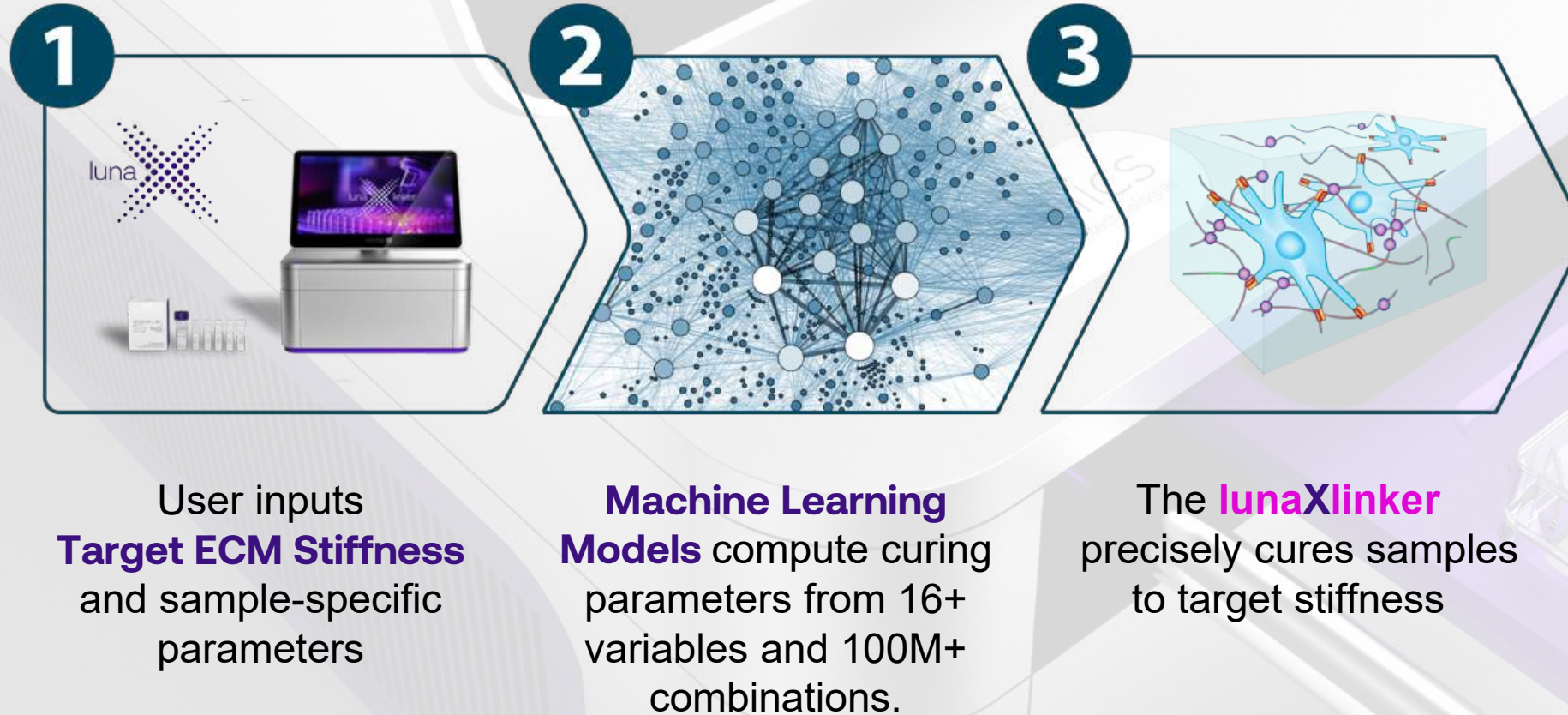
# Customisable crosslinking for individual samples.

Gelomics' patent-pending cytoLED™ technology enables precise crosslinking of individual wells to achieve your desired extracellular matrix stiffness. This innovation empowers researchers to create advanced, physiologically relevant disease models with unprecedented control.



# World's first **AI-assisted** 3D culture.

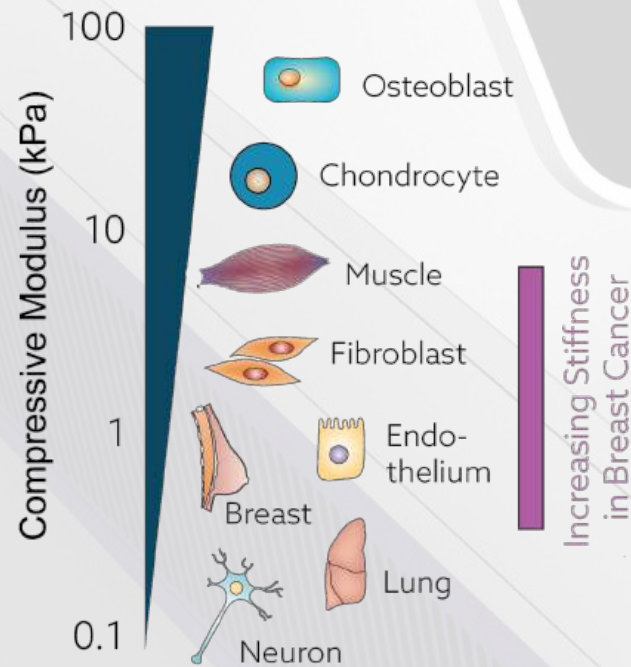
**We've done the hard work, so you don't have to.** Gelomics' cloud-based machine learning models provide unmatched precision in extracellular matrix stiffness control, eliminating repetitive trial-and-error optimisation and enabling fully standardised, reproducible 3D cultures.



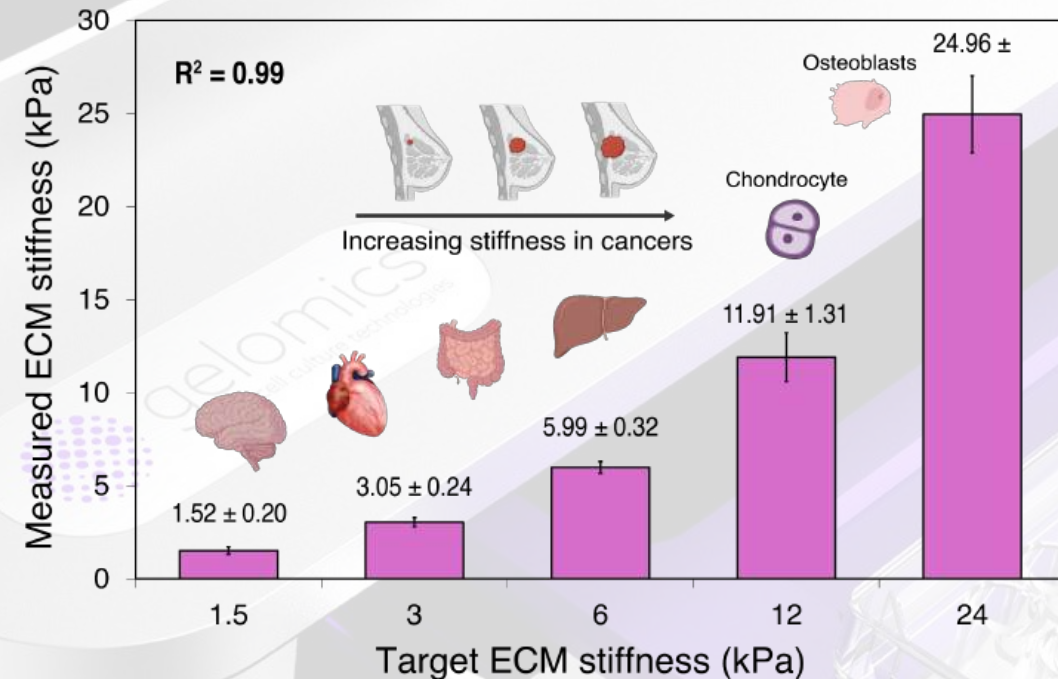


# Unmatched precision. Zero optimisation.

AI-predicted curing parameters achieve target ECM stiffness with >95% accuracy.



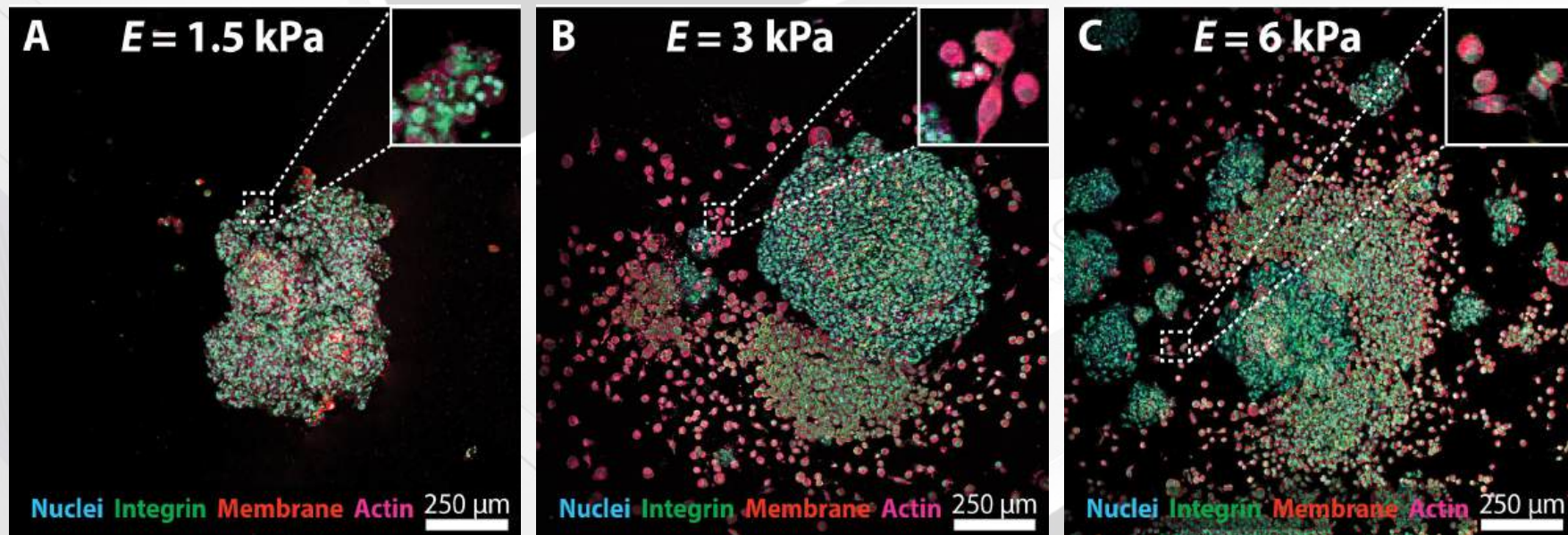
**Biomimetic ECM stiffness** is essential for physiological cell behaviour<sup>1</sup>, yet most current products fail to replicate it accurately.



Gelomics' machine learning models achieve target ECM stiffness with >95% precision, eliminating trial-and-error. This unlocks fast, reproducible, and physiologically relevant 3D cultures.

# Human-relevant data. Simple *in vitro* models.

Precisely tuned by AI-predicted parameters, enabling consistent, stiffness-driven cancer phenotypes.



## MDA-MB-231 breast cancer cell invasiveness increases with ECM stiffness.

MDA-MB-231 spheroids were cultured using LunaGel Low Stiffness ECM with elastic moduli of (A) 1.5 kPa, (B) 3 kPa, and (C) 6 kPa to mimic the mechanical properties of healthy breast tissue, as well as breast tissue with early stage and late stage cancer, respectively, for 7 days.



# Your Matrix. Your Way.

20+ ready-to-use ECM formulations engineered for control, consistency, ease-of-use, and seamless compatibility with the **lunaXlinker™** system.



**Included in every kit:**  
2x ECM stock solution, proprietary photoinitiator, sterile and ready-to-use components for reproducible 3D culture.



## Semi-synthetic ECM platform.

Combines the biological activity of natural materials with the control and reproducibility of synthetic materials.



## Application-specific ECMs.

Formulations tailored for different cell types and research needs.



## No cooling required.

LunaX™ ECMs can be handled at room temperature — no ice, no hassle.



## Tissue-specific compositions.

Photocrosslinkable decellularized ECMs from lung, bone, liver, and heart available.



## ECM stiffness control.

Available as low (0 – 6 kPa) and high stiffness kits (0 – 25 kPa).



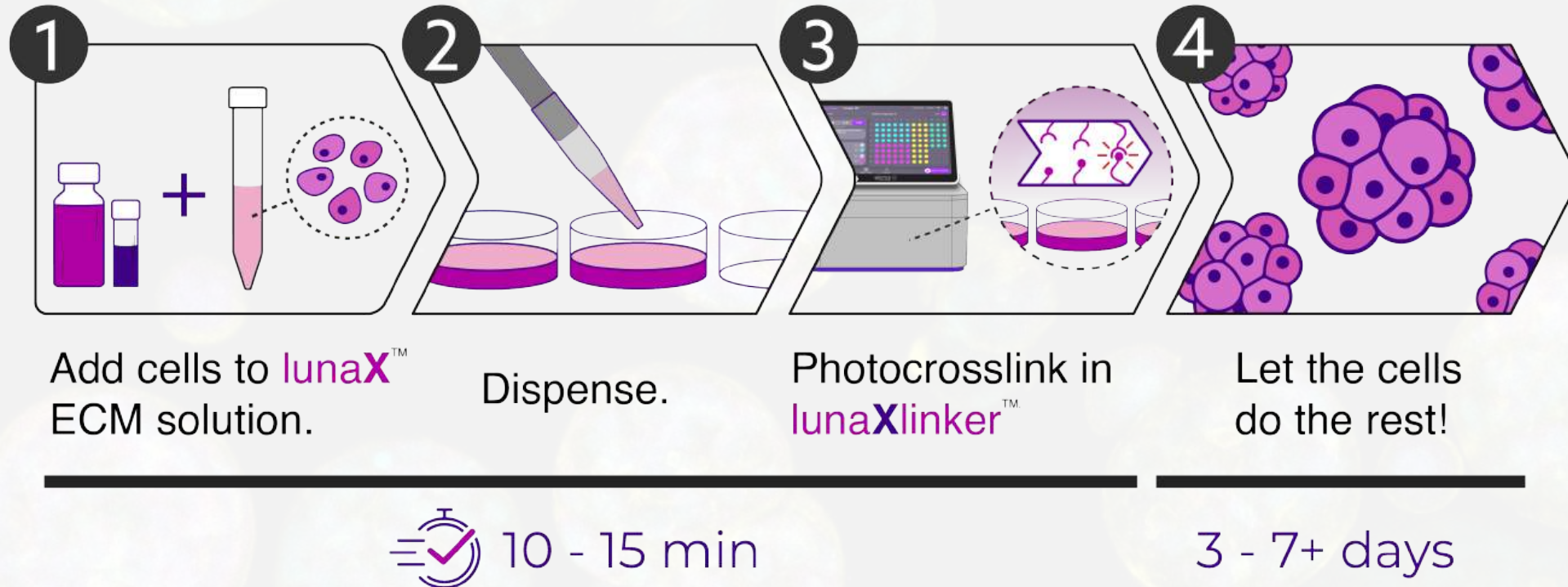
## Rapid photocuring.

LunaX ECMs cure in under 8 minutes using the lunaXlinker™.



# Advanced 3D Culture. No complexity.

Effortless 3D Tissue Culture – just mix, pipette, crosslink, and culture.



# lunaX™ ECMs.

## The new benchmark in 3D cell culture.

Trusted by 80% of our  
customers who switched from  
Matrigel™ for superior  
performance, control, and  
reproducibility.



Source



Composition



Mechanical Properties



Reproducibility



Growth Factors



Protocol Duration



Handling



Scalability

### lunaX™ Extracellular Matrices

Semisynthetic

Controlled

Tunable Stiffness

Highly Consistent

None

15 min

Room Temperature

Highly Scalable

### Matrigel® Basement Membrane Extract

Natural, from mouse sarcomas

Undefined, Varies by Batch

Uncontrolled

High Batch Variability

Uncontrolled, Variable

12 h thawing + 45 min

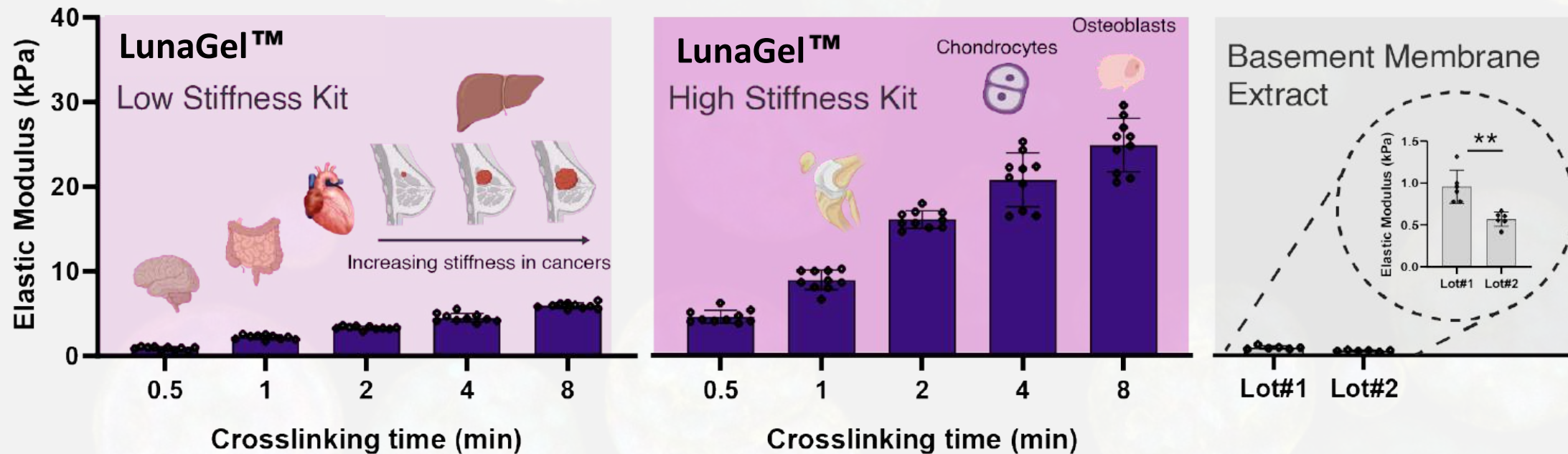
On Ice

Limited Scalability

# LunaX™ ECMs. Precision you can trust.

Consistent, tunable stiffness from 0 - 25 kPa across kits.

High batch-to-batch consistency, unlike basement membrane extracts.

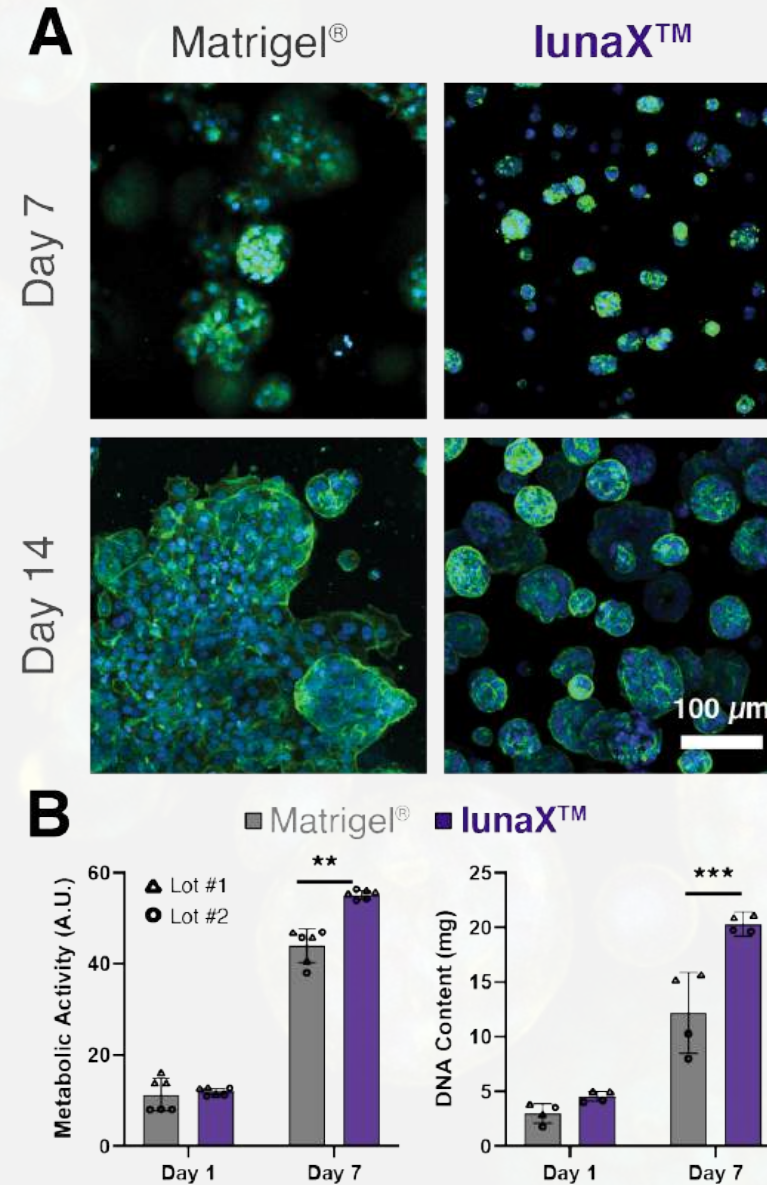




# **lunaX™ outperforms Matrigel. Better growth. Greater consistency.**

Consistent spheroid morphology, higher viability, and improved proliferation — all without batch variability.

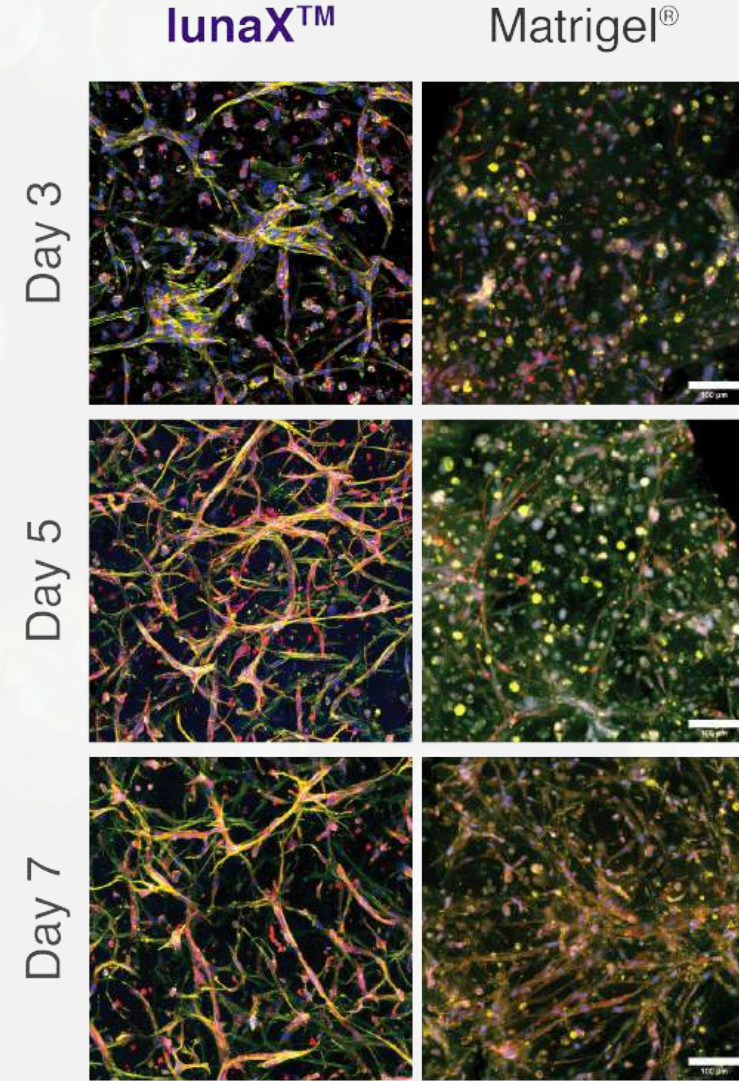
MCF-7 breast cancer cells cultured in LunaX™ ECMs form uniformly structured spheroids by day 7 and 14, maintaining regular morphology and size. In contrast, Matrigel® cultures show irregular, oversized spheroids and loss of structure over time. Quantitative analysis confirms LunaX™ supports significantly higher metabolic activity and DNA content by day 7, highlighting its superior performance and reliability for 3D cell culture applications.



# **lunaX™ accelerates vascular maturation.**

## **Robust, branched, and perfusable capillary-like networks.**

In HUVEC/MSC co-cultures, LunaX™ ECMs promote rapid formation of well-defined capillary-like networks, with clear CD31+ structures emerging by day 3 and maturing through day 7. In contrast, Matrigel® supports sparse, disorganised networks with minimal branching and weak marker expression. LunaX™ provides a superior microenvironment for angiogenesis studies and vascular tissue engineering, allowing the generation of perfusable vasculature *in vitro* (see video).





Contact us today!  
[info@gelomics.com](mailto:info@gelomics.com)

