LunaX™ Cell Recovery

For Research Use Only. Not for use in human or animal therapeutic or diagnostic applications.

Product Description

The LunaX Cell Recovery Kits are optimised, ready-to-use enzymatic systems designed to digest LunaX Extracellular Matrices (ECMs). The kits digest most crosslinked LunaX ECMs in 30–60 minutes at 37 °C, while preserving the viability and functionality of recovered cells, spheroids or organoids.

For routine cell recovery, Gelomics recommends starting with the formulation matched to ECM stiffness:

- Cell Recovery Kit – Low Stiffness (SKU0031)
- Cell Recovery Kit – High Stiffness (SKU0032)

If these formulations are unsuitable for your construct, contact us to discuss your application or consider using SKU0015

Recovered cells, spheroids, and organoids are suitable for a wide range of downstream applications including reseeding, nucleic acid extraction, flow cytometry, protein extraction, single-cell analyses, and other standard analytical workflows.

Product Specifications

Formulations	Low Stiffness: SKU0031 High Stiffness: SKU0032
Kit Volume	50 mL of working Cell Recovery Solution.
Kit Contents	1 vial LunaX Cell Recovery Reagent (freeze-dried, sterile), plus 50 mL sterile LunaX Cell Recovery Buffer.
Use	Recovery of viable cells, spheroids, and organoids from LunaX ECMs (SKUs 0002, 0005, 0007, 0009, 0011, 0012, 0016, 0017, 0027).
Formulation	Enzymatic lysis reagent supplied as lyophilised powder. Buffer supplied as sterile, ready-to-use solution.
Storage	Store kit at 4–8 °C. Following reconstitution, aliquot the 10× Stock Solution and store at -40 to -15 °C for up to 12 months.
Expiry	24 months from manufacture. Avoid repeated freeze–thaw cycles of the reconstituted reagent.
Manufacturing Standards	ISO 9001:2015 Quality Management System.

Cell Recovery Protocol

Usage Recommendations

- The LunaX Cell Recovery Kit is optimised for digestion of LunaX ECMs. There are three formulations: Low Stiffness, High Stiffness, and a general formulation as an alternative for constructs resistant to digestion.
- The reconstituted 10× Stock Solution may be aliquoted and stored at -40 to -15 °C for future use. Avoid repeated freeze-thaw cycles to preserve enzymatic activity.
- Maintain sterile technique throughout the protocol. Use a 37 °C water bath or incubator for all warming and digestion steps.

Required materials and devices

- LunaX Cell Recovery Kit (SKU0015, SKU0031 or SKU0032)
- 37 °C water bath and incubator
- Sterile pipettes and tips
- Cell culture medium appropriate for the cell type in use
- Sterile centrifuge tubes
- Benchtop centrifuge

Experimental Procedure

1. Reconstitute one vial of LunaX Cell Recovery with 5 mL Cell Recovery Buffer to create a 10× Stock Solution. Incubate at 37 °C for 15 minutes with occasional gentle shaking to ensure complete dissolution.

Experimental Procedure

2. If required, aliquot the 10× Stock Solution and store at -40 to -15 °C for future use. Avoid repeated freeze-thaw cycles.
3. On the day of cell recovery, dilute 1 volume of the 10× Stock Solution with 9 volumes of Cell Recovery Buffer to create the working Cell Recovery Solution. Warm to 37 °C before use.
4. Remove the cell culture medium from the 3D cultures.
5. Add the appropriate volume of working Cell Recovery Solution to each well (see Recommended Volumes table below).
6. Incubate at 37 °C for 30–60 minutes, preferably under gentle agitation, observing periodically until samples are fully digested. Most hydrogels will be digested within 30 minutes. If there are hydrogel fragments remaining after 60 minutes, break them up by gently pipetting up and down several times.
7. Dilute the digested cell suspension by adding two volumes of cell culture medium per volume of digestion solution.
8. Pellet cells by centrifugation following your standard protocol and carefully remove the supernatant.
9. Resuspend cells in fresh medium or appropriate buffer for the intended downstream application.

Recommended working Cell Recovery Solution volumes

Multiwell Plate Type	24-well	48-well	96-well
Volume per well (mL)	1.00	0.75	0.25

Troubleshooting Guide

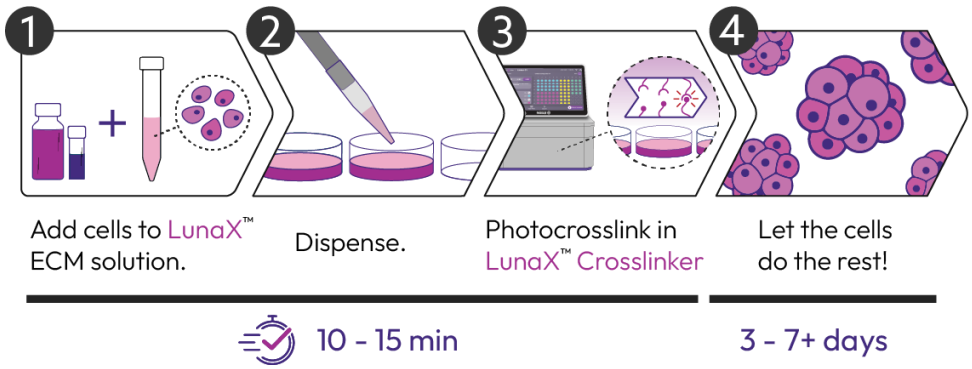
Problem	Solution
Hydrogel does not fully digest within 60 minutes.	Confirm that the working Cell Recovery Solution was correctly diluted (1:10), pre-warmed to 37 °C, and digestion completed at 37 °C. Pipette gently to disrupt any remaining hydrogel fragments. In rare cases, stiffer constructs, or constructs where cells have deposited substantial de novo ECM, may require additional incubation time.
Reduced cell viability following recovery.	Avoid extended incubation beyond 60 minutes and minimise vigorous pipetting. Dilute the digested suspension with culture medium before centrifugation, and ensure centrifugation speeds are appropriate for the cell type.
Cells fail to pellet after centrifugation.	Increase centrifugation speed within the range recommended for your cell type, or extend centrifugation time. Ensure the cell suspension has been sufficiently diluted with culture medium prior to centrifugation.
Reduced enzymatic activity of reconstituted reagent.	Confirm storage of reconstituted stock solution at -40 to -15 °C and avoid repeated freeze-thaw cycles. Use within 7 days if stored at 4–8 °C.
Cells do not reattach to culture surfaces after recovery.	Confirm centrifugation pellet is fully resuspended in fresh, pre-warmed culture medium. Plate at standard density and check cell health using viability staining before downstream use.

Related Products

- LunaX Photocrosslinkable Extracellular Matrices (SKUs: 0002, 0005, 0007, 0009, 0011, 0012, 0016, 0017, 0027)
- LunaX Crosslinker – Visible Light Photocrosslinking Device (SKU0028)

Available Documents

- Safety Data Sheet
- Certificate of Analysis
- LunaX Crosslinker User Manual



Please contact us at **info@gelomics.com** for questions or more information.