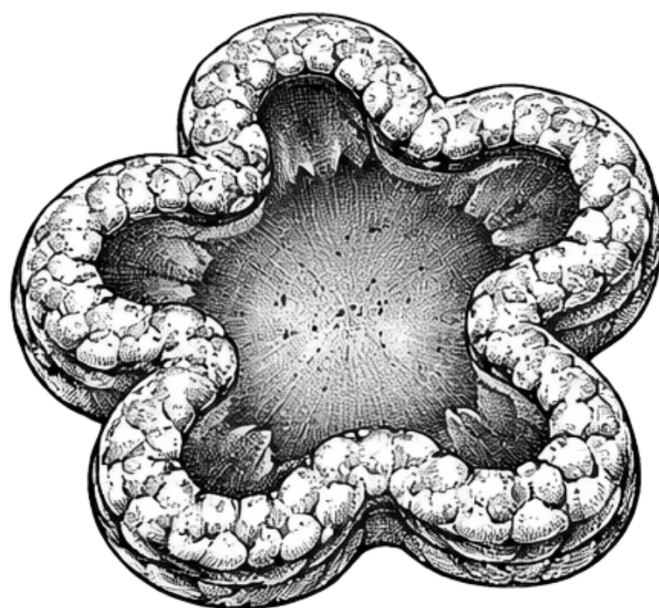




**STORGANOID™**

**PRESERVATION OF  
ORGANOIDS & SPHEROIDS**

**SG-MNS; SG-LNS; SG-XNS**



*Atelerix Handbook Series*

*Version SG01;0.1.1*

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# 1. COMPONENTS

## 1.1. KIT CONTENTS

| PRODUCT CODE | COMPONENTS         | UNITS    | UNIT VOLUME | ORGANOID SUSPENSION TO ADD |
|--------------|--------------------|----------|-------------|----------------------------|
| SG-MNS-03    | GelBase Beads      | 3 Tubes  | 0.4 mL      | -                          |
|              | Gel A (5x)         | 3 Tubes  | 0.12 mL     | 0.48 mL                    |
|              | Dissolution Buffer | 3 Tubes  | 1.1 mL      | -                          |
| SG-MNS-06    | GelBase Beads      | 6 Tubes  | 0.4 mL      | -                          |
|              | Gel A (5x)         | 6 Tubes  | 0.12 mL     | 0.48 mL                    |
|              | Dissolution Buffer | 6 Tubes  | 1.1 mL      | -                          |
| SG-MNS-12    | GelBase Beads      | 12 Tubes | 0.4 mL      | -                          |
|              | Gel A (5x)         | 12 Tubes | 0.12 mL     | 0.48 mL                    |
|              | Dissolution Buffer | 12 Tubes | 1.1 mL      | -                          |
| SG-MNS-24    | GelBase Beads      | 24 Tubes | 0.4 mL      | -                          |
|              | Gel A (5x)         | 24 Tubes | 0.12 mL     | 0.48 mL                    |
|              | Dissolution Buffer | 24 Tubes | 1.1 mL      | -                          |
| SG-MNS-50    | GelBase Beads      | 50 Tubes | 0.4 mL      | -                          |
|              | Gel A (5x)         | 50 Tubes | 0.12 mL     | 0.48 mL                    |
|              | Dissolution Buffer | 50 Tubes | 1.1 mL      | -                          |
| SG-LNS-03    | GelBase Beads      | 3 Tubes  | 2 mL        | -                          |
|              | Gel A (5x)         | 3 Tubes  | 0.5 mL      | 2 mL                       |
|              | Dissolution Buffer | 3 Tubes  | 3 mL        | -                          |
| SG-LNS-06    | GelBase Beads      | 6 Tubes  | 2 mL        | -                          |
|              | Gel A (5x)         | 6 Tubes  | 0.5 mL      | 2 mL                       |
|              | Dissolution Buffer | 6 Tubes  | 3 mL        | -                          |
| SG-LNS-12    | GelBase Beads      | 12 Tubes | 2 mL        | -                          |
|              | Gel A (5x)         | 12 Tubes | 0.5 mL      | 2 mL                       |
|              | Dissolution Buffer | 12 Tubes | 3 mL        | -                          |
| SG-LNS-24    | GelBase Beads      | 24 Tubes | 2 mL        | -                          |
|              | Gel A (5x)         | 24 Tubes | 0.5 mL      | 2 mL                       |
|              | Dissolution Buffer | 24 Tubes | 3 mL        | -                          |
| SG-LNS-50    | GelBase Beads      | 50 Tubes | 2 mL        | -                          |
|              | Gel A (5x)         | 50 Tubes | 0.5 mL      | 2 mL                       |
|              | Dissolution Buffer | 50 Tubes | 3 mL        | -                          |



| PRODUCT CODE     | COMPONENTS         | UNITS    | UNIT VOLUME | ORGANOID SUSPENSION TO ADD |
|------------------|--------------------|----------|-------------|----------------------------|
| <b>SG-XNS-03</b> | GelBase Beads      | 3 Tubes  | 8 mL        | -                          |
|                  | Gel A (5x)         | 3 Tubes  | 2 mL        | 8 mL                       |
|                  | Dissolution Buffer | 3 Tubes  | 12 mL       | -                          |
| <b>SG-XNS-06</b> | GelBase Beads      | 6 Tubes  | 8 mL        | -                          |
|                  | Gel A (5x)         | 6 Tubes  | 2 mL        | 8 mL                       |
|                  | Dissolution Buffer | 6 Tubes  | 12 mL       | -                          |
| <b>SG-XNS-12</b> | GelBase Beads      | 12 Tubes | 8 mL        | -                          |
|                  | Gel A (5x)         | 12 Tubes | 2 mL        | 8 mL                       |
|                  | Dissolution Buffer | 12 Tubes | 12 mL       | -                          |
| <b>SG-XNS-24</b> | GelBase Beads      | 24 Tubes | 8 mL        | -                          |
|                  | Gel A (5x)         | 24 Tubes | 2 mL        | 8 mL                       |
|                  | Dissolution Buffer | 24 Tubes | 12 mL       | -                          |
| <b>SG-XNS-50</b> | GelBase Beads      | 50 Tubes | 8 mL        | -                          |
|                  | Gel A (5x)         | 50 Tubes | 2 mL        | 8 mL                       |
|                  | Dissolution Buffer | 50 Tubes | 12 mL       | -                          |

**Note:** Remove components from 2-8°C for at least 20 minutes before use.

## 1.2. COMPONENTS TO BE SUPPLIED BY THE USER

- 1000µl Pipettes and Tips
- Cell Culture Medium (Antibiotic-Antimycotic supplementation is recommended if used outside of a sterile environment)
- Pasteur Pipette (optional)
- **Organoids or Spheroids!!**

## 1.3. BEFORE YOU BEGIN USING STORGANOID™

1. Ensure STORganoid™ kits have not passed the expiry date stated on the packaging. Atelerix does not recommend using kits after this date.
2. Read the troubleshooting guide on page 11 to see our list of frequently asked questions. For any further queries, please email us at [Sales@atelerix.co.uk](mailto:Sales@atelerix.co.uk).
3. Consult the Sample Size & Density Guide for Organoids & Spheroids on page 3.
4. STORganoid™ is intended for use solely in accordance with this protocol using the components provided within the kit.

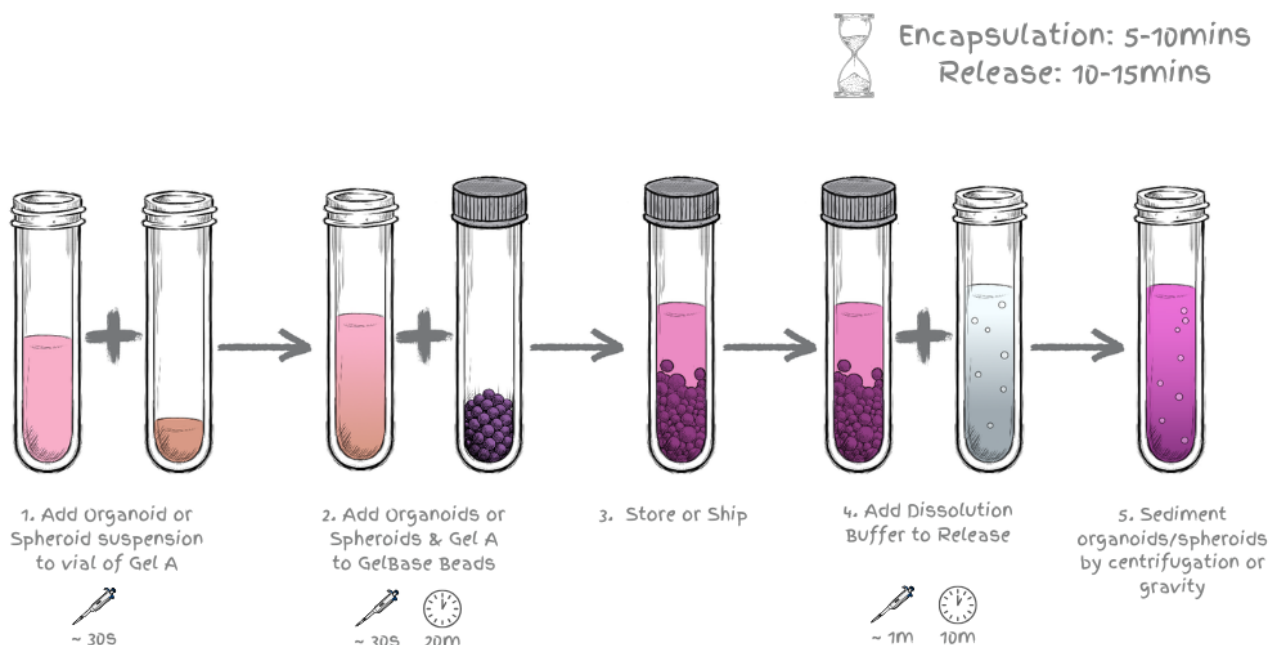
## 2. SAMPLE SIZE GUIDE

### 2.1. ORGANOIDS AND SPHEROID

| Diameter (µm) | Diameter (mm) | Recommended Capacity STORganoid™-M (SG-MNS) | Recommended Capacity STORganoid™-L (SG-LNS) | Recommended Capacity STORganoid™-XL (SG-XNS) |
|---------------|---------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|
| ≤ 150         | ≤ 0.15        | ≤ 250,000                                   | ≤ 1.125 x 10 <sup>6</sup>                   | ≤ 4.5 x 10 <sup>6</sup>                      |
| ≤ 200         | ≤ 0.2         | ≤ 100,000                                   | ≤ 450,000                                   | ≤ 1.8 x 10 <sup>6</sup>                      |
| ≤ 300         | ≤ 0.3         | ≤ 30,000                                    | ≤ 135,000                                   | ≤ 540,000                                    |
| ≤ 400         | ≤ 0.4         | ≤ 10,000                                    | ≤ 45,000                                    | ≤ 180,000                                    |
| ≤ 500         | ≤ 0.5         | ≤ 7000                                      | ≤ 31,500                                    | ≤ 126,000                                    |
| ≤ 750         | ≤ 0.75        | ≤ 2000                                      | ≤ 9000                                      | ≤ 36,000                                     |
| ≤ 1000        | ≤ 1           | ≤ 800                                       | ≤ 3600                                      | ≤ 14,400                                     |
| ≤ 1500        | ≤ 1.5         | ≤ 250                                       | ≤ 1125                                      | ≤ 4500                                       |
| ≤ 2000        | ≤ 2           | ≤ 100                                       | ≤ 450                                       | ≤ 1800                                       |
| ≤ 3000        | ≤ 3           | ≤ 30                                        | ≤ 135                                       | ≤ 540                                        |
| ≤ 4000        | ≤ 4           | ≤ 10                                        | ≤ 45                                        | ≤ 180                                        |
| ≤ 5000        | ≤ 5           | ≤ 5                                         | ≤ 22.5                                      | ≤ 90                                         |



### 3. PROTOCOL OVERVIEW



## 4. STORGANOID™ MEDIUM (SG-MNS)

### 4.1. GELATION

1. Ensure that all components are allowed to equilibrate to room temperature before use and that gels are at the bottom of their tubes. Conduct all steps in a laminar flow hood at room temperature.
2. Resuspend organoids or spheroids in 0.48 mL cell culture medium.
3. Add 0.48 mL of organoid/spheroid suspension directly to the vial containing 0.12 mL **Gel A**. Gently mix until homogenous, using a Pasteur or micropipette 5 – 10 times, ensuring that no bubbles are introduced (see troubleshooting guide on page 11).
4. Add 0.6 mL of the organoid/spheroid suspension / **Gel A** mix to the **GelBase Beads**.
5. Place the cap back on the tube and gently invert the **gel / bead** mixture several times until the beads are evenly distributed throughout the gel. Gently flick the tube to settle contents. **Leave the vial still and unagitated**, the gel will cure in situ within approximately 30 minutes, sample is ready to ship after 1 hour.
6. Store away from light in a polystyrene box at the recommended temperature for the organoid or spheroid type encapsulated. See the table on page 5 or, for the most up



to date recommendations on storage temperatures and times, visit our [Compatibility section](#) on our website or contact [sales@atelerix.co.uk](mailto:sales@atelerix.co.uk).

*Use the STORganoid Vial containing beads provided for encapsulation, storage, and release.*

## 4.2. STORAGE TEMPERATURE GUIDE

| Sample                      | Recommended Storage Conditions | Tested Storage Time |
|-----------------------------|--------------------------------|---------------------|
| Brain Organoids             | 15– 25°C                       | 10 Days             |
| Cardiac Organoids           | 15– 25°C                       | 5 Days              |
| Dermal Organoids            | 15– 25°C                       | 7 Days              |
| Colorectal Cancer Organoids | 15– 25°C                       | 5 Days              |
| Breast Cancer Organoids     | 15– 25°C or 2-8°C              | 5 Days              |
| Lung Cancer Organoids       | 15– 25°C or 2-8°C              | 5 Days              |
| Hepatic Organoids           | 15– 25°C                       | 5 Days              |

*If you cannot find any recommendations for your organoid or spheroid type, contact [Sales@atelerix.co.uk](mailto:Sales@atelerix.co.uk).*

## 4.3. RELEASE

1. Ensure that all components and samples are allowed to equilibrate to room temperature before use and conduct all steps in a laminar flow hood at room temperature.
2. Using a serological pipette or syringe with needle, pierce the gel and infuse 1 mL [Dissolution Buffer](#) into the bottom of the gel by piercing the gel, filling up to the indicated line. As the Dissolution Buffer is added to the gel, remove the pipette tip/needle to avoid spillage and ensure that you do not disturb the sample.
3. Place the cap back on the tube and allow the gel to dissolve by occasionally agitating the tube by gentle inversion or rocking for 10 minutes (see troubleshooting guide on page 11).
4. When the gel has fully dissolved, the organoid/spheroids can be collected using a Pasteur or micropipette or sedimented by centrifugation or gravity.
5. Wash sample with culture medium or buffer before continuing with downstream processes.

## 4.4. SHIPPING YOUR SAMPLE

Use appropriate controlled temperature packaging<sup>2</sup> when preparing organoids/spheroids for shipping to reduce the effect of ambient temperature change on the encapsulated sample during transit.

<sup>2</sup>For best cell recovery upon arrival, we recommend using the ICECATCH Solid Ambient or Cool Shipping Boxes.

Find out more & shop at <https://www.atelerix.co.uk/pages/variants-collection-page-accessories>

## 5. STORGANOID™ LARGE (SG-LNS)

### 5.1. GELATION

1. Ensure that all components are allowed to equilibrate to room temperature before use and that gels are at the bottom of their tubes. Conduct all steps in a laminar flow hood at room temperature.
2. Resuspend organoids or spheroids in 2 mL cell culture medium.
3. Add 2 mL of organoid/spheroid suspension directly to the vial containing 0.5 mL **Gel A**. Gently mix until homogenous, using a Pasteur or micropipette 5 – 10 times, ensuring that no bubbles are introduced (see troubleshooting guide on page 11).
4. Add 2.5 mL of the organoid/spheroid suspension / **Gel A** mix to the **GelBase Beads**.
5. Place the cap back on the tube and gently invert the **gel / bead** mixture several times until the beads are evenly distributed throughout the gel. Gently flick the tube to settle contents. **Leave the vial still and unagitated**, the gel will cure in situ within approximately 30 minutes, sample is ready to ship after 1 hour.
6. Store away from light in a polystyrene box at the recommended temperature for the organoid or spheroid type encapsulated. See the table on page 7 or, for the most up to date recommendations on storage temperatures and times, visit our [Compatibility section](#) on our website or contact [sales@atelerix.co.uk](mailto:sales@atelerix.co.uk).

<sup>1</sup>Use the STORganoid Vial containing beads provided for encapsulation, storage, and release.



## 5.2. STORAGE TEMPERATURE GUIDE

| Sample                      | Recommended Storage Conditions | Tested Storage Time |
|-----------------------------|--------------------------------|---------------------|
| Brain Organoids             | 15– 25°C                       | 10 Days             |
| Cardiac Organoids           | 15– 25°C                       | 5 Days              |
| Dermal Organoids            | 15– 25°C                       | 7 Days              |
| Colorectal Cancer Organoids | 15– 25°C                       | 5 Days              |
| Breast Cancer Organoids     | 15– 25°C or 2-8°C              | 5 Days              |
| Lung Cancer Organoids       | 15– 25°C or 2-8°C              | 5 Days              |
| Hepatic Organoids           | 15– 25°C                       | 5 Days              |

If you cannot find any recommendations for your organoid or spheroid type, contact [Sales@atelerix.co.uk](mailto:Sales@atelerix.co.uk).

## 5.3. RELEASE

1. Ensure that all components and samples are allowed to equilibrate to room temperature before use and conduct all steps in a laminar flow hood at room temperature.
2. Using a serological pipette or syringe with needle, pierce the gel and infuse 3 mL **Dissolution Buffer** into the bottom of the gel by piercing the gel, filling up to the indicated line. As the Dissolution Buffer is added to the gel, remove the pipette tip/needle to avoid spillage and ensure that you do not disturb the sample.
3. Place the cap back on the tube and allow the gel to dissolve by occasionally agitating the tube by gentle inversion or rocking for 10 minutes (see troubleshooting guide on page 11).
4. When the gel has fully dissolved, the organoid/spheroids can be collected using a Pasteur or micropipette or sedimented by centrifugation or gravity.
5. Wash sample with culture medium or buffer before continuing with downstream processes.



## 5.4. SHIPPING YOUR SAMPLE

Use appropriate controlled temperature packaging<sup>2</sup> when preparing organoids/spheroids for shipping to reduce the effect of ambient temperature change on the encapsulated sample during transit.

<sup>2</sup>For best cell recovery upon arrival, we recommend using the ICECATCH Solid Ambient or Cool Shipping Boxes.

Find out more & shop at <https://www.atelerix.co.uk/pages/variants-collection-page-accessories>

## 6. STORGANOID™ EXTRA LARGE (SG-XNS)

### 6.1. GELATION

1. Ensure that all components are allowed to equilibrate to room temperature before use and that gels are at the bottom of their tubes. Conduct all steps in a laminar flow hood at room temperature.
2. Resuspend organoids or spheroids in 8 mL cell culture medium.
3. Add 8 mL of organoid/spheroid suspension directly to the vial containing 2 mL **Gel A**. Gently mix until homogenous, using a Pasteur or micropipette 5 – 10 times, ensuring that no bubbles are introduced (see troubleshooting guide on page 11).
4. Add 10 mL of the organoid/spheroid suspension / **Gel A** mix to the **GelBase Beads**.
5. Place the cap back on the tube and gently invert the **gel / bead** mixture several times until the beads are evenly distributed throughout the gel. Gently flick the tube to settle contents. **Leave the vial still and unagitated**, the gel will cure in situ within approximately 30 minutes, sample is ready to ship after 1 hour.
6. Store away from light in a polystyrene box at the recommended temperature for the organoid/spheroid type encapsulated. See the table on page 8 or, for the most up to date recommendations on storage temperatures and times, visit our [Compatibility section](#) on our website or contact [sales@atelerix.co.uk](mailto:sales@atelerix.co.uk).

<sup>1</sup>Use the STORganoid Vial containing beads provided for encapsulation, storage, and release.

## 6.2. STORAGE TEMPERATURE GUIDE

| Sample                      | Recommended Storage Conditions | Tested Storage Time |
|-----------------------------|--------------------------------|---------------------|
| Brain Organoids             | 15– 25°C                       | 10 Days             |
| Cardiac Organoids           | 15– 25°C                       | 5 Days              |
| Dermal Organoids            | 15– 25°C                       | 7 Days              |
| Colorectal Cancer Organoids | 15– 25°C                       | 5 Days              |
| Breast Cancer Organoids     | 15– 25°C or 2-8°C              | 5 Days              |
| Lung Cancer Organoids       | 15– 25°C or 2-8°C              | 5 Days              |
| Hepatic Organoids           | 15– 25°C                       | 5 Days              |

If you cannot find any recommendations for your organoid or spheroid type, contact [Sales@atelerix.co.uk](mailto:Sales@atelerix.co.uk).

## 6.3. RELEASE

1. Ensure that all components and samples are allowed to equilibrate to room temperature before use and conduct all steps in a laminar flow hood at room temperature.
2. Using a serological pipette or syringe with needle, pierce the gel and infuse between 6 mL and 12 mL **Dissolution Buffer** into the bottom of the gel by piercing the gel, filling up to the indicated line. As the Dissolution Buffer is added to the gel, remove the pipette tip/needle to avoid spillage and ensure that you do not disturb the sample.
3. Place the cap back on the tube and allow the gel to dissolve by occasionally agitating the tube by gentle inversion or rocking for 10 minutes (see troubleshooting guide on page 11).
4. When the gel has fully dissolved, the organoid/spheroids can be collected using a Pasteur or micropipette or sedimented by centrifugation or gravity.
5. Wash sample with culture medium or buffer before continuing with downstream processes.

## 6.4. SHIPPING YOUR SAMPLE

Use appropriate controlled temperature packaging<sup>2</sup> when preparing organoids/spheroids for shipping to reduce the effect of ambient temperature change on the encapsulated sample during transit.

<sup>2</sup>For best cell recovery upon arrival, we recommend using the ICECATCH Solid Ambient or Cool Shipping Boxes.

Find out more & shop at <https://www.atelerix.co.uk/pages/variants-collection-page-accessories>



## 7. TROUBLESHOOTING GUIDE

| Problem / Question                                                                                                     | Guidance                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I have air bubbles in the gel after mixing with my media, is this a problem?                                           | Air trapped within the gel will affect preservation, so bubbles should be eliminated before mixing with the beads. Allow time for the mixture to settle and the bubbles to travel to the surface before addition.                                                                                                                                         |
| Can I use the kit to encapsulate organoids or spheroids in a plate format?                                             | We would recommend WellReady™ for the encapsulation and storage of organoids and spheroids in plate format.                                                                                                                                                                                                                                               |
| Can I ship the Dissolution Buffer in the same package as the samples?                                                  | Yes, the Dissolution Buffer is stable at a wide range of temperatures and can be shipped together with the encapsulated samples.                                                                                                                                                                                                                          |
| What are the recommended storage times and temperatures for my organoid or spheroid type?                              | A guide to the recommended storage times and temperatures can be found on our <a href="#">Compatibility section</a> on our website. If you cannot find any recommendations for your cell type, please contact <a href="mailto:Sales@atelerix.co.uk">Sales@atelerix.co.uk</a> .                                                                            |
| Can I reuse the contents of the kit if I don't use it all?                                                             | No, there should only be sufficient volume for a set number of encapsulations per kit. Any spare reagents will not be sufficient to perform any additional encapsulations properly.                                                                                                                                                                       |
| Can I use PBS instead of media when encapsulating samples?                                                             | No, PBS should not be used at any point as it inhibits and slowly reverses gelation.                                                                                                                                                                                                                                                                      |
| Can I split the kit into smaller tubes to get more encapsulations?                                                     | No, we do not recommend removing the GelBase Beads from the tubes supplied or deviating from the volumes stated.                                                                                                                                                                                                                                          |
| What if the beads have not fully dissolved after 10 minutes? Can the cells be allowed to sit in the buffer for longer? | This sometimes occurs when the medium used to store the beads fortifies the gel. Extend the incubation until the beads dissolve – this should not take much longer than 15 minutes. Please contact <a href="mailto:Sales@atelerix.co.uk">Sales@atelerix.co.uk</a> for information on how long cells may be allowed to incubate in the Dissolution Buffer. |

## 8. STATEMENTS

### 8.1. KIT STORAGE AND STABILITY

This kit is stable at 2-8°C for up to 12 months. Atelerix does not recommend using the kit after the expiry date stated on the packaging.

### 8.2. CELLULAR MATERIAL

Please ensure that biological materials are free of fungal and bacterial contamination before proceeding.

### 8.3. TRADEMARKS

STORganoid™ is a trademark of Atelerix Ltd.

*If you cannot find any recommendations for your organoid or spheroid type, please visit our [Compatibility section](#) on our website or contact [Sales@atelerix.co.uk](mailto:Sales@atelerix.co.uk).*



**NOTES**