

## Xeno-Free Cell Culture Essentials Kit

### Product Description

The Xeno-Free Cell Culture Essentials Kit is a collection designed to elevate cell culture processes with innovation, efficiency, and environmental consciousness. This kit combination includes cutting-edge Xeno-free products for your cell culture needs CellShip™, CellScrew®, and CellSplit® – each engineered to redefine your cell culture techniques and outcomes.

### CellShip®

CellShip® a fully defined, xeno-free cell transportation medium. It is a new alternative to cryopreservation. CellShip® has been developed to provide an alternative to cryopreservation for the transport and short-term storage of mammalian cells. To date, CellShip® has been validated for up to 120 h transport/storage at ambient temperatures, for a range of cell lines (Table 1) and for 72 h transport/storage of primary, canine mesenchymal stem cells (MSCs). The protocol requires minimal cell manipulation, reducing the risk of contamination and improving efficiency within the laboratory. CellShip® is sterile, xeno-free, defined and contains a non-toxic additive designed to protect cells against shear stress, and to help maintain membrane integrity. We provide two formulations, either with or without insulin.

### Advantages of using CellShip®

- CellShip® is a 'ready-to-use' transport and short-term storage medium, suitable for a wide range of cells.
- CellShip® provides flexibility to highly time critical processes.
- CellShip® removes the cost and logistic challenges associated with shipment on dry ice.
- CellShip® offers stable pH-buffering of pH 7.20 - 7.45 for temperatures between +2°C to +37°C.
- CellShip® can be used at ambient temperatures.
- CellShip® is xeno-free i.e., free from serum and animal/human proteins.
- Endotoxin levels conform to EU standards ( $\leq 1.0$  EU/mL).
- CellShip® is solvent free i.e., free from DMSO.
- CellShip® is manufactured under ISO 13485.

### CellSplit®

CellSplit® is a completely xeno-free, plant-derived, direct replacement to porcine or bovine-derived

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trypsin. CellSplit is used during sub-culturing of adherent cells. It is a completely xeno-free, non-recombinant alternative to porcine or bovine derived trypsin. The active ingredient is a cysteine protease with a broad specificity, cleaving the peptide bonds of leucine and glycine. The enzyme is of plant origin and is manufactured as a GMP grade product.

The active ingredient has been used extensively for cell detachment and tissue dissociation and has been shown to be a more gentle and efficient alternative to porcine derived trypsin. During development CellSplit® has been shown to be effective with a range of cell lines including Vero, HEK, C2C12, L929, MRC5, LLCPK1, MDCK and CHO cells.

CellSplit® is suitable for both serum free and serum containing cell cultures and as it is inactivated by dilution, unlike trypsin, it does not require specific inhibitors such as foetal bovine serum (FBS). CellSplit® is simple to use and can be directly substituted for trypsin or an alternative cell dissociation reagent, minimising any disruption to your current processes.

#### **Advantages of using CellSplit®**

- Xeno-free alternative to porcine or bovine trypsin
- Revolutionises cell harvesting
- Maintains traditional protocol for seamless transition
- UK CA and CE marked for high-quality performance

#### **CellScrew®**

CellScrew® simplifies the cell culturing process by removing the need for washing and pelleting cells. CellScrew™ by Green Elephant is an innovative, single-use device, manufactured from plant-based PLA, for effortless seeding of adherent cells on a large surface area.

CellScrew® is a novel single-use cell culture device, which can simply be used in any bottle or tube roller. The CellScrew®'s surface is suitable for the cultivation of demanding adherent cell lines e.g. HEK-293 or MSCs. CellScrew® is manufactured in an additive manufacturing process and is made from plant-derived PLA. Using this renewable polymer reduces its carbon footprint ~90 % when compared to standard single-use cell culture dishes, especially multi-stack systems.

#### **Advantages of using CellScrew®**

- Ingenious single-use device for large area seeding

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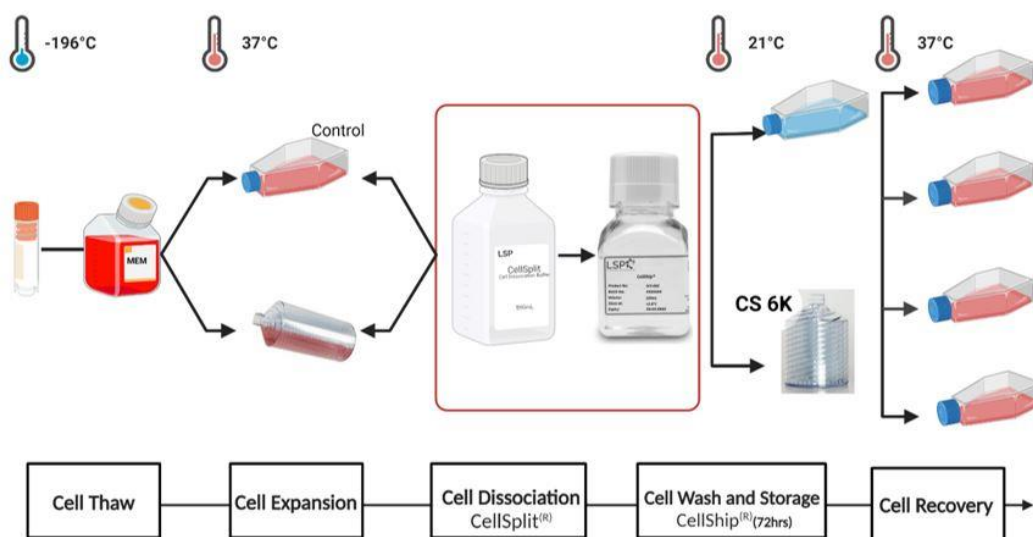
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- Plant-based PLA via innovative manufacturing
- Simplifies growth of HEK-293 and MSCs
- 90% fewer CO<sub>2</sub> emissions compared to conventional dishes
- Reduced costs, faster scalability

## Product Data



**Figure 1: Workflow steps of preserving cells in CellScrew in the use of CellShip® as a transporting media.**

**Table 1 Result summary upon 48hrs of recovery following 72hrs of storage in CellShip®**

	75 T-Flask	CellScrew
Attachment	No	Yes
Cell viability	88.7%	99.1%
Fold change	No- 0	Yes- 2.3-Fold increase

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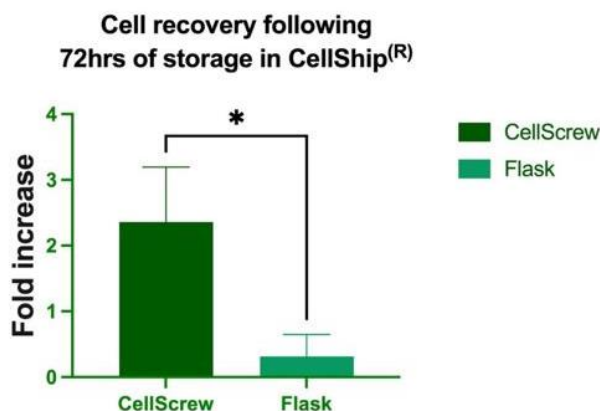
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**Figure.2** Bar graph presentation of fold change of using CellScrew and T-Flask as a transport device and CellShip<sup>®</sup> as a transport solution.

## Product Presentation

Product Code	Product Description
KIT-CELLS-001	Xeno-Free Cell Culture Essentials Kit – CellShip Cell Transport media (1L), CellSplit Cell Dissociation Reagent (100mL), CellScrew Culture area 6,000cm <sup>2</sup> media (500-600mL)
KIT-CELLS-002	Xeno-Free Cell Culture Essentials Kit – CellShip Cell Transport media (1L plus 5x100mL), CellSplit Cell Dissociation Reagent (200mL), CellScrew Culture area 10,000cm <sup>2</sup> media (800-1,000mL)

## Support

Life Science Production is a division of Life Science Group Ltd.  
Life Science Production is [ISIA Traceability Certified](#)  
Life Science Group Ltd is an ISO 9001:2015 Certified company

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