

sCellLiVE® Tissue to Living Single Cell Suspension Kit

The sCellLiVE® Tissue to Living Single Cell Suspension Kit comprises two separate reagents, sCellLiVE Tissue Preservation Buffer and sCellLiVE Dissociation Master Mix. Applied subsequently to various fresh and solid tissue types, they ensure dissociation into single cell suspensions with a viability of typically > 90%.

Both sCellLiVE reagents have been developed for single cell partitioning and labelling in single cell sequencing processes and are also a crucial ingredient of SCOPE Single Cell Library Kits (see list of kits). The separated viable cells obtained by using the sCellLiVE Tissue to Living Single Cell Suspension Kit can also be further applied to downstream applications such as Flow Cytometry, Cell sorting, Single cell culture and Single cell proteomics.

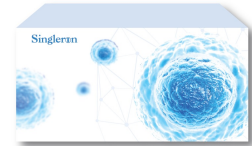
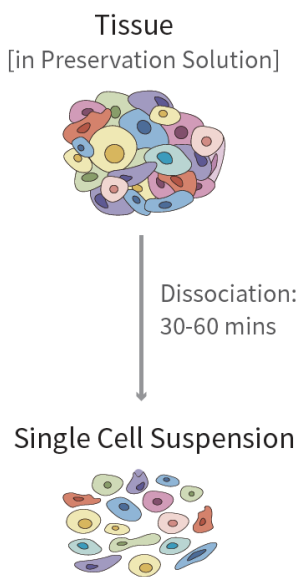


Figure 1. The sCellLiVE® Tissue to Living Single Cell Suspension Kit



sCellLiVE Solutions Highlights

- **Versatility** – can be easily applied to all fresh and solid tissues (e.g, surgically resected samples and needle biopsies)
- **Easy and fast workflow** – a simple and straightforward protocol up to an hour
- **One-for-all solution** – one product effective on a large variety of tissue types and species
- **Secure high-quality results** – including prevention of rare cell type loss

Applying the easy, fast and straightforward sCellLive workflow (Figure 2), preserved samples can be shipped, stored and dissociated within 72 hours in order to overcome typical bottlenecks in a clinical environment.

Procedure

sCellLiVE Tissue Preservation Buffer efficiently simulates the physiological environment and ensures high cell viability over a 72-hour time period (Figure 3, Left). The resulting gene expression pattern is not affected (Figure 3, right). No fixative or stabilization chemicals, often used to prevent RNA degeneration, are added. The high viability of cells ensures a proper analysis of all cell types, even those prone to degradation such as neutrophils or derived from a low sample amount.

Figure 2. Application of sCellLiVE - Tissue Preservation and Dissociation Solutions. End product is a single cell suspension with high cell viability.

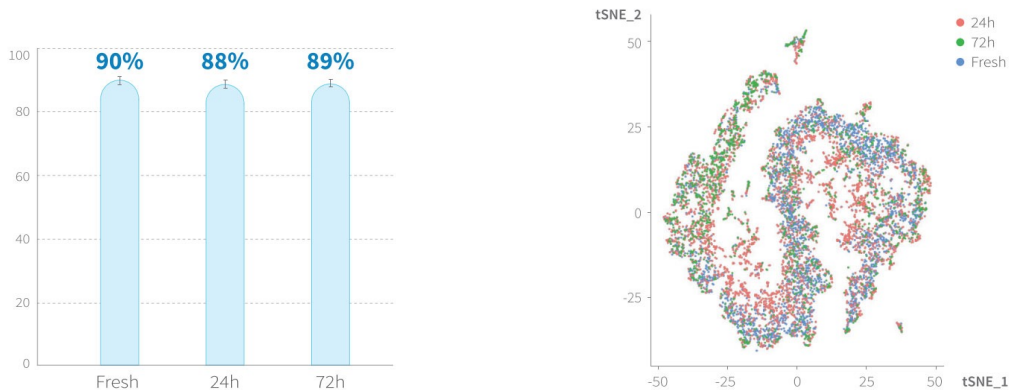


Figure 3. Left: Viability of cells using Tissue Preservation Solution with brain tissues collected freshly or stored at 4°C for 24 and 72 hours. Approximately 90% of the cells from the tissue stored in the Preservation Solution were still alive after 72 hours storage. Right: The panel shows t-SNE plots of single cell sequencing results from fresh tissue, or the same tissue stored for 24 hours or 72 hours in sCellLiVE. The same cellular compositions were identified in all three samples.

sCellLiVE Dissociation Master Mix enzymatically dissociates various samples, even difficult tissue types such as brain and bone, with no need for further optimization. The proprietary formulation does not affect cell viability (Figure 4), ensures high cell yield (Figure 6) and was verified on a wide variety of sample types from both human and mice (Figure 5).

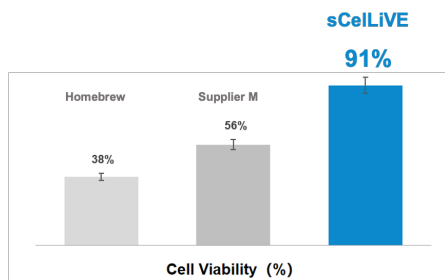


Figure 4. Comparison of sCellLiVE Tissue Dissociation Master Mix to other protocols on dissociation of glioblastoma samples: a homebrew protocol from literature and a commercial product from Supplier M. Cell suspension generated with sCellLiVE Tissue Dissociation Master Mix had the highest cellular viability.

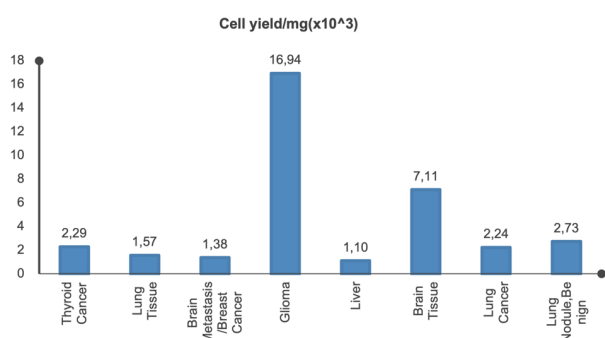


Figure 6. Total cell yield of diverse clinical samples evaluated using the Python, an automated 8-channel tissue dissociation system. The results are shown in the number of cell yield/mg of the tissue.

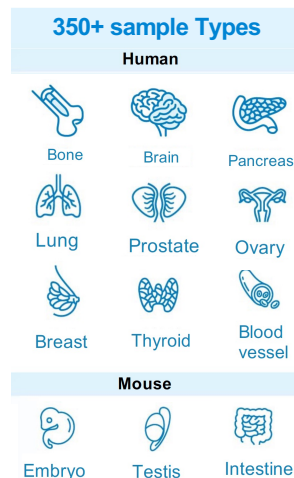


Figure 5. More than 350 sample types from human and murine sources, including difficult sample types such as brain and blood vessel have been successfully processed.

Reliable and Complete Solution for Any Clinical Sample Type

sCellLiVE Tissue to Living Single Cell Suspension Kit is an all-in-one and ready-to-use solution from tissue to viable single cell suspension without the requirement of reagent preparation and protocol optimization for the vast majority of tested tissue types.

Ordering information:

Product	Reagents	Reactions	Catalog Number
sCellLiVE® Tissue to Living Single Cell Suspension Kit	sCellLiVE® Tissue Preservation Buffer	16 RXNs	1190062
	sCellLiVE® Dissociation Master Mix		

Kits containing Tissue Preservation and Tissue Dissociation Solutions

Product	Application
GEXSCOPE® Single Cell RNA Library Kit (Tissue)	Single cell mRNA library construction from fresh tissue or cell samples
GEXSCOPE® Single Nucleus RNA Library Kit	Single nucleus extraction and mRNA library construction from frozen tissue or special sample types (e.g. large cells or cells with inhibitory impurities)
GEXSCOPE® Single Cell VDJ Library Kits (Tissue)	Simultaneous analysis of TCR/BCR sequences and mRNA expression profiles in single cells
DynaSCOPE® Single Cell Dynamics RNA Library Kit (Tissue)	Analysis of dynamic RNA synthesis rate at single cell level
FocuSCOPE® Single Cell Target Seq Library Kit (Tissue)	Simultaneous analysis of mRNA expression and genetic variants (mutation and/ gene fusion) or intracellular viral sequences in single cells

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