



Storage and shipment of

Murine Muscle

Tissue biopsies are essential for histological analysis. Currently biopsies are routinely collected and formalin fixed or cryo-preserved. However, there are major drawbacks associated with these techniques.

7 Day Storage

TissueReady™ technology uses a hydrogel to protect tissue biopsies and whole organs. Murine quadricep muscles were stored in TissueReady™ or RPMI medium-only (Non-encaps.) at 4°C for 7 days.

Tissue Viability and Structure

After release from the TissueReady™ preservation, the percentage of live to dead cells was quantified and tissue structure was examined by histology. The live/dead cell ratio and structural integrity was vastly improved following storage in TissueReady™ compared to medium alone.

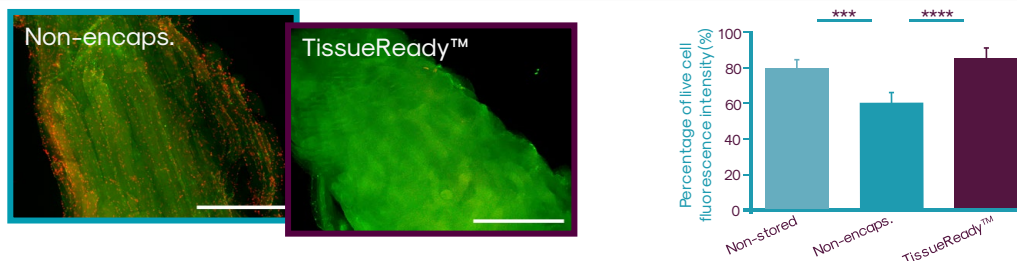


Figure 1. Live/dead staining of muscle by calcein-AM/ethidium homodimer-1 after storage for 7 days. TissueReady™ increases live/dead cell ratio.

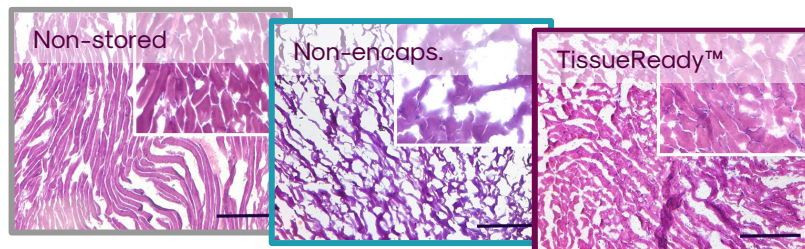
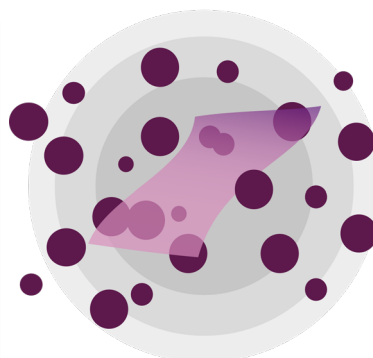


Figure 2. Structure analysis of muscle by H&E staining after storage for 7 days. TissueReady™ preserves tissue structure and prevents tissue swelling and disintegration during storage.

TissueReady™

Tissue biopsies or organs can be protected at room or refrigerated temperatures in a hydrogel. First, a gel solution is added to a vial containing gelation beads. Tissue can then be inserted into the gel mixture. After waiting a few minutes for the gel to form, the tissue is ready for storage or shipment to the end user. Adding the gentle release buffer causes the gel to dissolve, releasing the tissue ready for downstream applications.



✉ info@atelerix.co.uk

🐦 @atelerixLtd

🌐 www.atelerix.co.uk

Storage and shipment of

Human Skin

Tissue biopsies are essential for histological analysis. Currently biopsies are routinely collected and formalin fixed or cryo-preserved. However, there are major drawbacks associated with these techniques.

5 Days Storage in TissueReady™

TissueReady™ technology uses a hydrogel to protect tissue biopsies and whole organs. Fresh human abdominal skin punch biopsies were stored in TissueReady™ at room temperature for 5 days.

Preserved Morphology & Viability

After release from the TissueReady™ hydrogel, tissue structure and integrity was examined by histology and viability by metabolic activity. Haematoxylin / Eosin (H&E) and collagen staining demonstrated preserved structure following TissueReady™ storage and relative metabolic activity was unchanged.

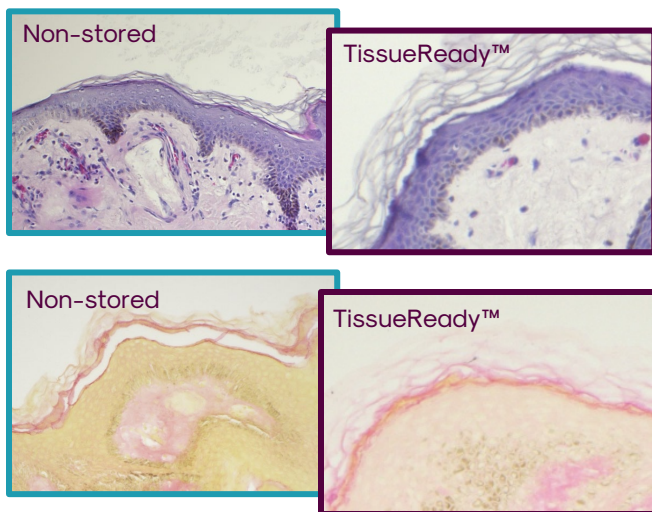


Figure 1. Histology of fresh human skin biopsies after 5 days of storage using TissueReady™. Top shows H&E staining, bottom shows collagen content (red stain).

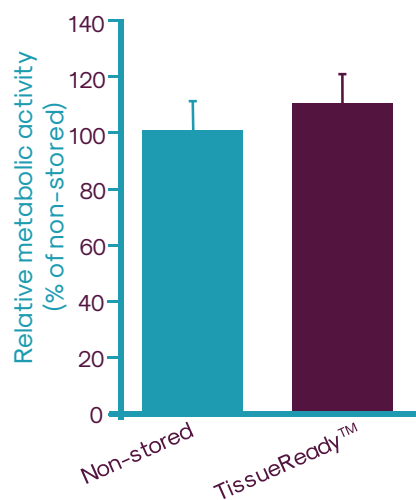


Figure 2. Relative metabolic activity (viability) of skin biopsies before and after storage. Assayed by alamarBlue.

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