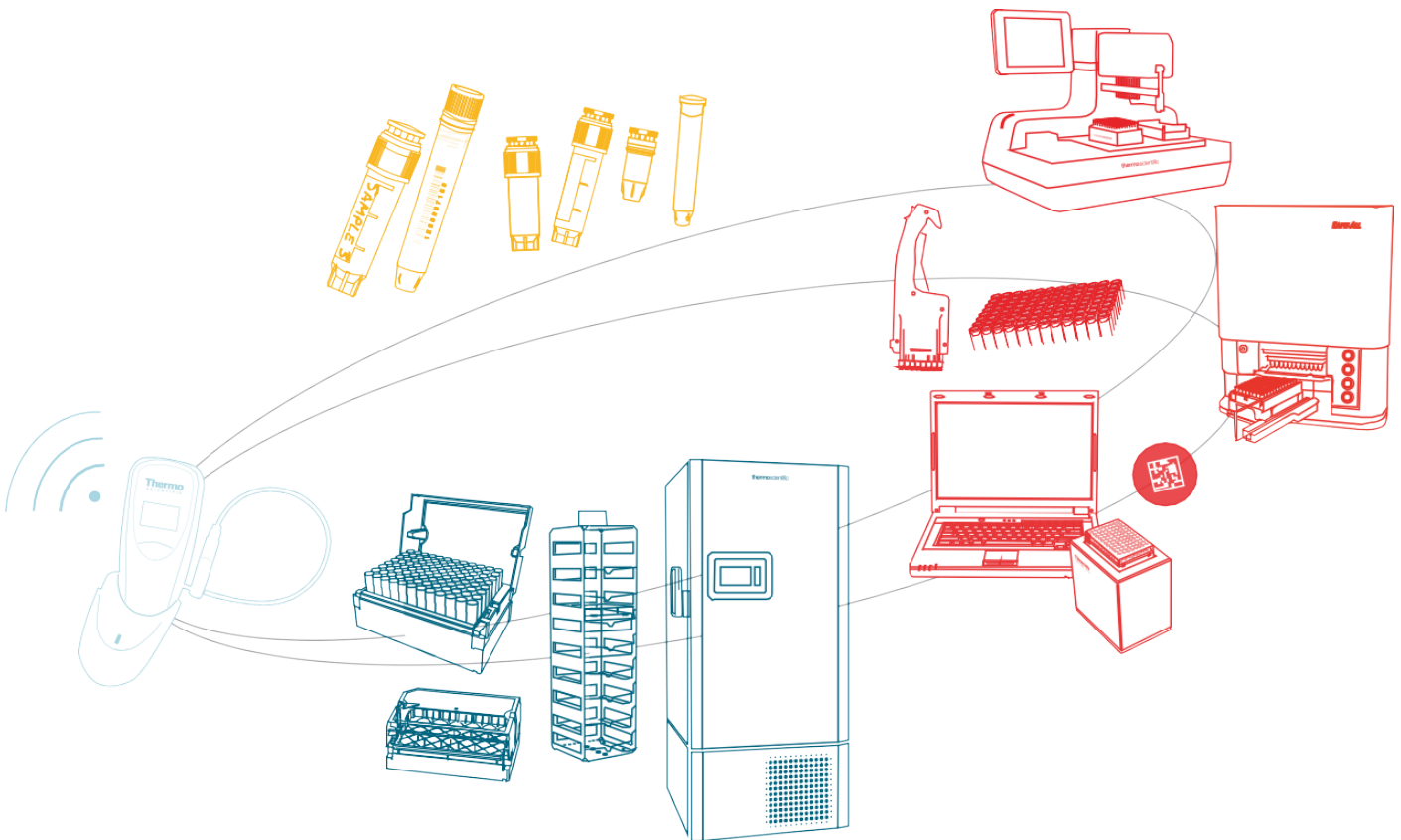




# Biobanking Workflow Solutions

Taking research forward from sample collection to preparation and storage



## 1 Collect

- Cryogenic tubes
- 2D barcoded tubes
- Storage plates

## 2 Prepare

- Plate sealers
- Tube and vial cappers/decappers
- Closures
- Barcode readers

## 3 Store

- Freezers, ultra-low temperature freezers and cryopreservation systems
- Racks

## 4 Monitor

- Wireless monitoring systems

Learn more at [thermofisher.com/biobanking](https://www.thermofisher.com/biobanking)

## Cryogenic tubes

Store samples from general cold storage to the vapor phase of liquid nitrogen with **Thermo Scientific™ Nunc™ Biobanking and Cell Culture Cryogenic Tubes**, available with either internal or external threads.

- Non-cytotoxic, non-mutagenic raw materials and pyrogen-free cryogenic tubes
- Certified SAL of  $10^{-6}$
- Bulk, uncapped, non-sterile versions available for less demanding applications



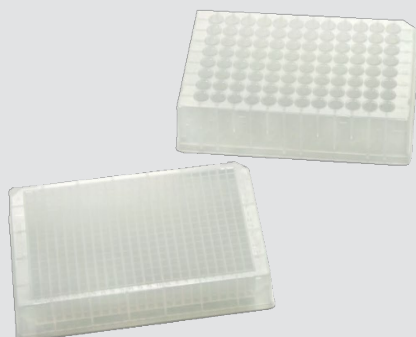
## Barcoded tubes

**Thermo Scientific™ Matrix™ 2D Barcoded Screw-top Storage Tubes** are ideal for Biobanking applications at temperatures from  $-80^{\circ}\text{C}$  to  $-196^{\circ}\text{C}$

- Permanent 2D barcodes enable safe, secure tracking of samples
- Certified SAL of  $10^{-3}$
- Certified DNase-, RNase-, pyrogen-, and toxin-free
- Volumes from 200  $\mu\text{L}$  to 5 mL
- 7 cap colours available for 0.5 mL and 1 mL sizes

## Storage plates

**Thermo Scientific™ ABgene™ Storage Plates** are polypropylene plates with 48, 96 or 384 wells.



- Manufactured in our Class 100,000 clean room ISO 9001 conditions
- Certified DNase, RNase and human DNA free
- ANSI format for compatibility with automated systems
- Stable at temperatures  $-80^{\circ}\text{C}$  to  $+121^{\circ}\text{C}$
- Sealing options including adhesive/heat seals are available



## Handheld capper/decapper

The 8-channel Thermo Scientific™ **Handheld Capper and Decapper** is a practical addition to benchtop processing of screw top storage tubes.

- Processes a full rack of Thermo Scientific™ Matrix™ or Nunc™ tubes in less than one minute
- Caps all tubes to the optimal torque level specified for the tube
- Light weight, easy-to-use and ergonomic design



## Capper/decapper

Maintain sample integrity with a hands-free method of capping and decapping tubes quickly and easily with the Thermo Scientific™ **Capit-All™ Screw Cap Tube Capper/Decapper**.

- Ideal for integration into automated systems
- Cap and decap an entire rack at a time in approximately 10 seconds
- Suitable for 48-, and 96- format Thermo Scientific™ Matrix™ and Thermo Scientific™ Nunc™ Screw Top Tubes

## Sealing Systems

Thermo Scientific™ Matrix™ **SepraSeal** and **DuraSeal** tube sealing solutions complement the innovative line of Matrix 2D and non-2D coded storage tubes.

- Elastomer material extensively tested for chemical compatibility
- Available solid or pre-split
- Reliable sealing of sample storage tubes at temperatures as low as -20°C or -80°C
- SepraSeal is available in multiple color options

The flexibility of individual tube capping combined with the pierceable cap design allows individual sample access even while the storage tubes remain sealed.



## Plate sealers

The Thermo Scientific™ ALPS5000™ **plate sealing** equipment is the next generation in automated plate sealing because it offers increased sealing times, optimised process customisation, a significant reduction in energy consumption, and all electric operation which improves reliability and reduces noise.

- Seals up to 2 plates per minute in hand-fed, benchtop, or high throughput robotic applications
- Touchscreen control and parameter customization
- Electrically driven with tool free loading
- Energy efficient and energy conscious



## Closures



Color-code your sample vials. Thermo Scientific™ Nunc™ CryoTube™ Colored Caps are for use with Nunc internally threaded CryoTube vials and include a silicone gasket to provide the best seal.

- Sterile and non-sterile options available



## High speed barcode reader

The Thermo Scientific™ VisionMate™ HSX High Speed 2D Barcode Reader is available with an attachable linear barcode reader which rapidly decodes full racks or single storage tubes.

- Rapidly reads racks of tubes in 24, 48, 96 and 384 formats without any user programming
- As benchtop or as part of an integrated robotic platform





## Ultra-low temperature freezers

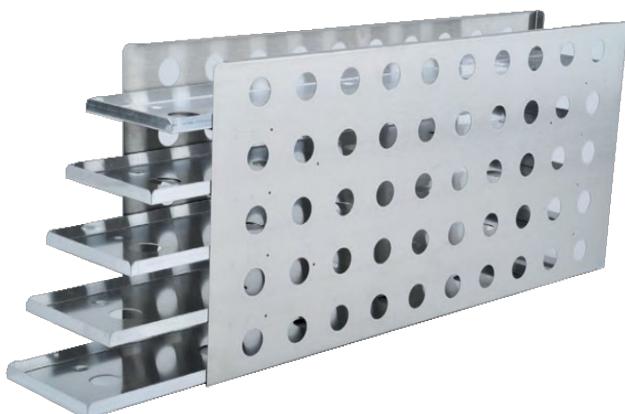
Thermo Scientific™ TSX Series Ultra-Low Temperature (ULT) Freezers are designed to meet the highest protection and sustainability standards for ultra-low storage. They offer low peak variation, excellent overall temperature uniformity and fast door opening recovery with low energy usage.

- Four capacities: 400, 500, 600 and 700 two-inch (5 cm) boxes
- Touchscreen user interface
- Whisper-quiet operation
- Long warm-up time from -80°C to -50°C : more than 5 hours
- 5 year standard warranty plus 7 additional years on V-drive compressors\*

\*Restrictions and exclusions apply. Warranty is void if the unit is not maintained as set forth in the operation and service manuals.

## Freezer racks

Maximize the storage space in your ultra- low temperature freezer with **Thermo Scientific™ Racks**. Includes sliding drawer racks, adjustable side access box racks and microplate racks in standard or deepwell formats.



## Universal latch racks

The **Universal Latch Racks** in microplate format (for 24, 48 or 96 tubes/rack) for traditional Thermo Scientific™ Nalgene™, Nunc™ or Matrix™ cryogenic tubes (externally or internally threaded) enable secure transport and storage. The ANSI standard format facilitates use in automated picking/placing, liquid handling and other high throughput applications.



## Cryopreservation storage

Thermo Scientific™ Cryopreservation Equipment for storage and transport includes long-term storage solutions with liquid nitrogen offering outstanding temperature performance, low operating costs and integrated control features.

- Storage systems with auto-fill LN<sub>2</sub> or with manual-fill LN<sub>2</sub> dewars
- Transfer and shipping vessels for transportation
- Controlled-rate freezers for sample preparation



CryoExtra



CryoPlus



Locator



BioCane

## Controlled rate freezer

Thermo Scientific™ CryoMed Controlled-Rate Freezer provides precise, repeatable freezing results that protect the sample from intracellular freezing.

The CryoMed CRF provides enhanced data traceability via a touchscreen user interface and offers customizable freezing profiles while supporting 21 CFR part 11 and GMP needs.



## Freezing containers

Thermo Scientific™ Mr. Frosty Freezing Containers freeze cells in tubes from 1 to 5 mL using the Thermo Scientific™ Mr. Frosty™ Freezing Container.

The simple-to-use system is designed to achieve a rate of cooling very close to -1°C/minute, the optimal rate for cell preservation. It holds 12 to 18 tubes, and a screw top lid secures samples inside in the event of accidental container tipping.

## Remote monitoring solution

Thermo Scientific™ Smart-Vue™ Wireless Monitoring Systems continuously monitor and report on critical lab equipment parameters in real time 24/7: temperature (-196 °C to +350 °C), relative humidity (RH), differential pressure (clean rooms), CO<sub>2</sub> concentration, 4-20 mA and dry contact state. Secure logging of data and immediate remote alarm notifications.

The system is completely scalable and collects data continuously on a centralized database. Quickly export reports to Microsoft™ Excel™, Word™ or Adobe™ PDF formats with just a click on the icon. Smart-Vue is compliant with FDA regulatory 21 CFR, part 11.



Protect your samples.  
Protect your investments.



### Biobanking Learning Center

- Discover our range of consumables and equipment for your next breakthrough
- Products and services that give you the power to secure and preserve your precious samples
- High quality innovative products including ultra-low temperature freezers, storage tubes, controlled-rate freezers, wireless monitoring solutions and many more

Learn more at [thermofisher.com/biobanking](https://thermofisher.com/biobanking)

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