HypoVitalis Pro

Cell, Tissue & Organoid Preservation Solution

Catalog No.: ***CO109***

Pack Size: ***100mL/500mL***

Storage: ***2-8ºC***

DESCRIPTION

HypoVitalis Pro is a ready-to-use, serum-free, protein-free, and animal component–free hypothermic preservation medium specifically designed for the short-term cold storage of tissues and three-dimensional organoid systems at 2–8 °C.

HypoVitalis Pro is the upgraded version of HypoVitalis, featuring a more refined and comprehensive ionic balance and an enhanced buffering system to better support intracellular and extracellular homeostasis under hypothermic conditions. It provides stronger protection against oxidative stress and improved resistance to hypothermia-induced molecular and metabolic stress in complex multicellular structures. The formulation supports the maintenance of tissue architecture, cell–cell and cell–matrix interactions, and overall structural integrity during hypothermic preservation.

HypoVitalis Pro contains a balanced composition of key inorganic ions at concentrations tailored to stabilize intracellular and extracellular homeostasis. Additional components include physiologically relevant pH buffering systems, energy substrates, free radical scavengers, and osmotic/oncotic stabilizers, which together help reduce cold-induced injury and preserve functional viability in tissues and organoids.

The product is manufactured under cGMP-compliant conditions using USP/EP/CP-grade components and is subjected to sterility, endotoxin, and cell-based release testing to ensure consistent quality and performance.

IMPORTANT FEATURES

- Ready-to-use formulation
- Serum-free and protein-free
- Animal component–free
- Chemically defined composition
- Manufactured under cGMP conditions using USP/EP/CP-grade components
- Subjected to sterility, endotoxin, and cell-based release testing

PROCEDURES

Preparation

Before opening, wipe down the exterior surface of the HypoVitalis Pro container using 70% ethanol or isopropanol to ensure aseptic handling.

Medium Replacement

Cell, tissues or organoids may be transferred from any commonly used culture medium or balanced salt solution into cold (2–8°C) *HypoVitalis Pro* prior to hypothermic storage.

⚠ *Do not warm HypoVitalis Pro to 37°C. The formulation is optimized for hypothermic conditions only.*

Cold Storage

Maintain samples at 2–8°C throughout the entire preservation period.

⚠ *Note: HypoVitalis Pro is not a culture medium and should not be used above 15°C.*

Post-Storage Recovery

For tissues and organoids preserved under hypothermic conditions

A. Tissues or free-floating organoids

3. Gently collect the tissue fragments or organoids by gravity settling or low-speed

centrifugation, as appropriate, to avoid mechanical stress.

4. Carefully replace the *HypoVitalis Pro* solution with fresh, pre-warmed (37°C) culture medium or recovery medium of choice, and transfer the tissues or organoids to standard culture conditions (37°C, 5% CO_2) for equilibration and functional recovery.

B. Organoids maintained in matrix-supported or vessel-attached formats

3. Completely remove the *HypoVitalis Pro* medium from the culture vessel or storage container without disturbing the tissue or organoid structure.
4. Add pre-warmed (37°C) culture medium or organoid maintenance medium, and incubate under standard culture conditions to allow gradual re-equilibration and recovery of tissue or organoid activity.

PRECAUTIONARY NOTES

Sterile Handling Procedures

Always handle the hypothermic preservation solution under aseptic conditions. Use a certified sterile workbench and sterile tools to prevent microbial contamination that may compromise tissue or organoid integrity during cold storage.

Correct Storage Temperature

Store the hypothermic preservation solution at 2–8°C as recommended. Do not freeze. Maintaining the specified temperature range is critical to preserving the functional stability of the formulation.

Avoid Temperature Fluctuations

Minimize repeated warming and cooling cycles. During handling, limit exposure of the solution and biological samples to room temperature. Prolonged temperature fluctuations may reduce the protective effectiveness of the formulation under hypothermic conditions.

Pre-Use Inspection

Before use, verify the expiration date and visually inspect the solution. Do not use the product if particulate matter, turbidity, discoloration, or container damage is observed.

Compatibility with Tissues and Organoids

Compatibility between the hypothermic preservation solution and the specific tissue type or organoid system should be evaluated prior to routine use. Different tissues or organoid models may exhibit variable sensitivity to hypothermic conditions and formulation components.

Compatibility Assessment

Compatibility testing may include assessment of structural integrity, viability, metabolic activity, and functional recovery of tissues or organoids following hypothermic storage. Preliminary validation is recommended to confirm suitability for the intended application.

Gentle Handling to Preserve Structure

Avoid excessive mechanical stress such as vigorous pipetting, agitation, or high-speed centrifugation. Gentle handling is essential to maintain tissue architecture and three-dimensional organoid structure.

Prevent Cross-Contamination

Avoid cross-contamination between different tissue types or organoid samples. Use clearly labeled, dedicated containers and follow proper aseptic techniques throughout handling and storage.

Documentation and Labeling

Clearly document and label the storage solution, storage temperature, duration of hypothermic preservation, and sample information. Accurate records facilitate traceability and quality control.