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Value from Innovation

IrvineScientific

Vit Kit-NX

ADVANCED VITRIFICATION SOLUTIONS

Reduce Stress on Oocytes and Embryos with a Continuous System

Building on the benefits of Continuous Single Culture Medium (CSCM) and Multi-purpose Handling Medium (MHM), Vit Kit-NX brings the vitrification process in line with both the culture and handling steps of IVF by eliminating the need to transfer precious specimens to different media formulations for vitrification.

Reduce stress on embryos and oocytes, simplify laboratory processes, and achieve high survival rates.

How Modern Is Your Media?

Vit Kit-NX	VS	Traditional Vit Media
CSCM Base Designed for human embryo culture		M199 Base Designed for chick embryo fibroblasts
HEPES/MOPS Dual-buffered system		HEPES Mono-buffered system

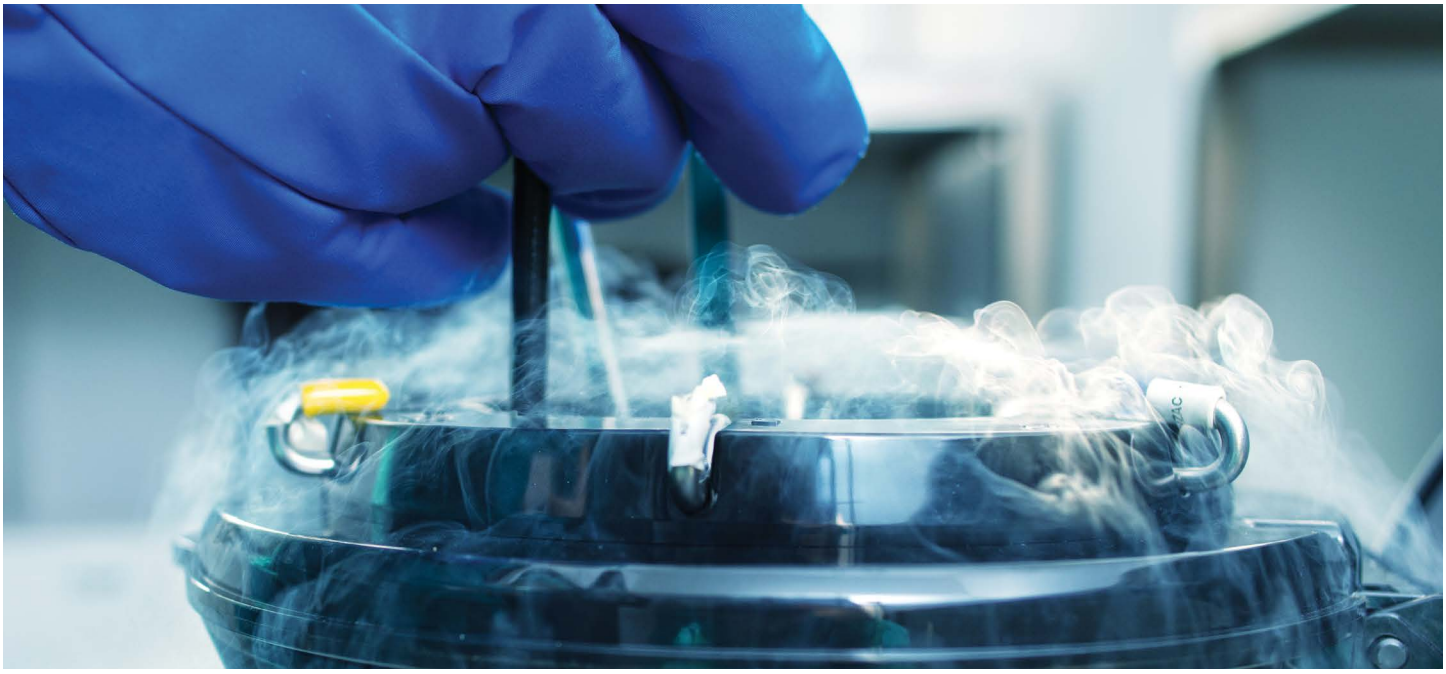
There is simply nothing more important than protecting precious human oocytes and embryos at every stage of the IVF cycle.

To help ensure your clients achieve their goals for a healthy family, it is crucial that vitrification seamlessly integrate into the IVF cycle and safeguard embryos for the future.

While effective, many vitrification kits feature an M199 base, which is a formulation originally designed for chick embryo fibroblasts—not human embryos—as well as a mono-buffered system. Though sufficient, these solutions could benefit from enhancement to ensure formulas are targeted to support human embryos, as well as create a steady, continuous system that achieves high survival rates.

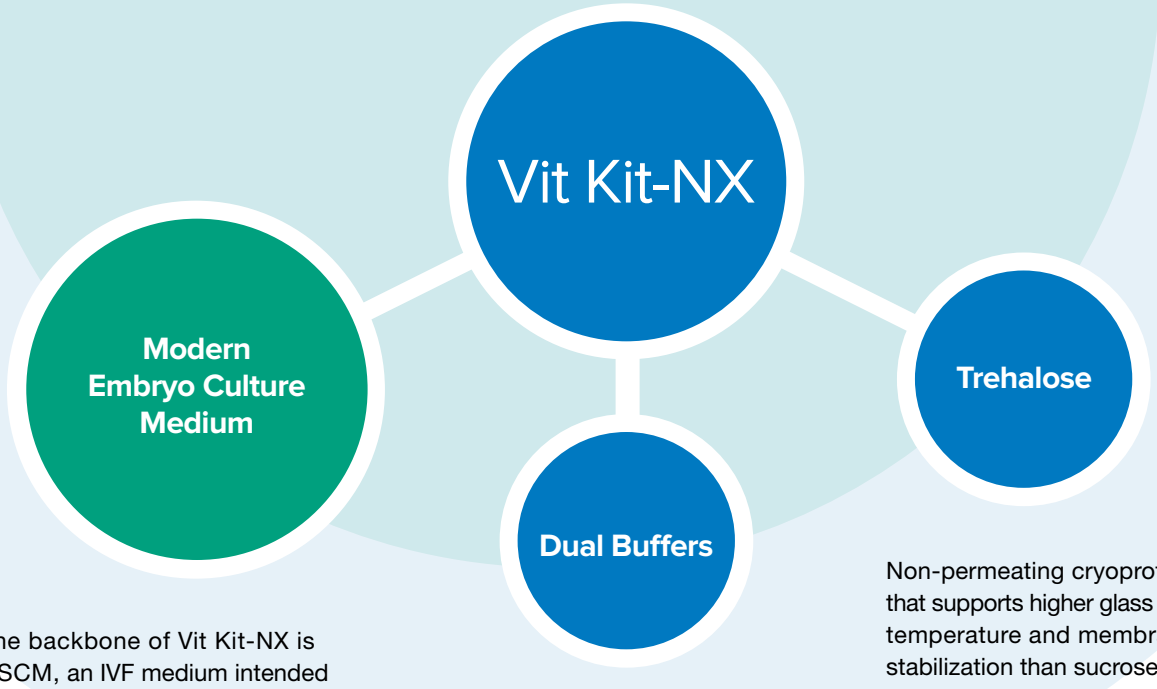
Vit Kit - Freeze NX and Vit Kit - Warm NX are the latest advancements in vitrification media aimed to streamline and simplify your processes. Each multi-step kit features a collection of formulations derived from current IVF media tailored specifically for the vitrification process. By building on the benefits of contemporary IVF media for use in vitrification, Vit Kit-NX brings the vitrification process in line with both the culture and handling steps of IVF.

The enhanced formulas deliver consistent results, including high oocyte and embryo survival rates, while also offering an effective, flexible, and economical media ideally suited for the nuanced needs of the modern IVF laboratory.



Enhanced IVF Media for Better Vitrification

Vit Kit-NX integrates key ingredients used in the culture and handling steps of IVF with recent advancements in vitrification to provide a next-generation cryopreservation solution.



The backbone of Vit Kit-NX is CSCM, an IVF medium intended for conventional fertilization, as well as culture from Day 1 and beyond.

CSCM delivers a consistent, embryo-friendly environment through the IVF cycle.

Vit Kit-NX is buffered by both HEPES and MOPS to provide a more secure pH environment for oocytes and embryos during vitrification.

Non-permeating cryoprotectant that supports higher glass transition temperature and membrane stabilization than sucrose.

Founded on a Trusted Formula

The new Vit Kit-NX retains the key benefits of the original Vit Kit, including:

- DMSO and EG as permeating cryoprotectants
- Dextran serum supplement as a protein source
- Gentamicin as an antibiotic

Flexible Vitrification Solutions for the Modern IVF Laboratory

Vit Kit - Freeze NX

Vit Kit - Freeze NX is an adaptable, cost-effective system for use in the vitrification of oocytes, pronuclear zygotes, cleavage stage embryos, and blastocyst stage embryos. Each kit can be used for up to 50 freezing applications for oocytes and 60 applications for embryos.

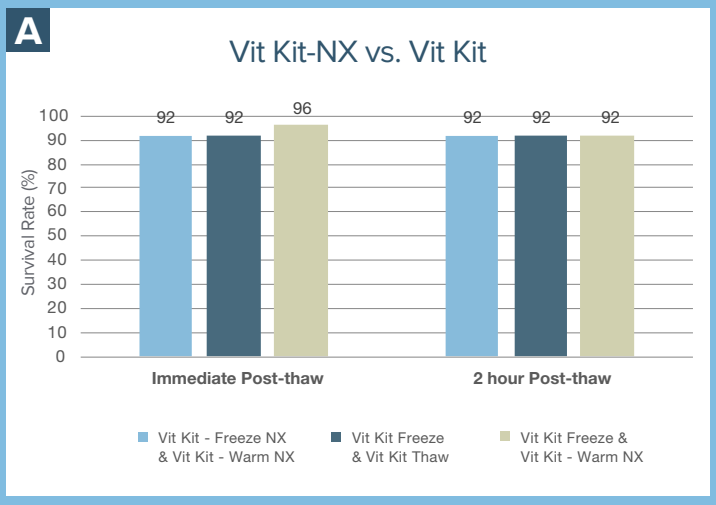
- Reduce costs by using less media with our microdrop protocol
- Minimize waste with a one-year shelf life for unopened products and two-week shelf life for open products
- Ready to use—no mixing required
- Compatible with any vitrification device
- Contains no phenol red

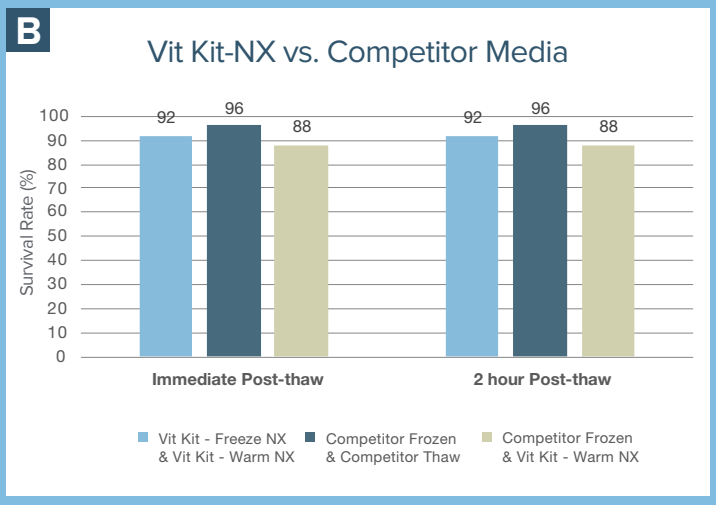
Vit Kit - Warm NX

Vit Kit - Warm NX is an adaptable, cost-effective system for use in the thawing of oocytes, pronuclear zygotes, cleavage stage embryos, and blastocyst stage embryos. Each kit can be used for up to 12 warming applications with embryos or oocytes.

- Simplify the workflow with a flexible kit configuration
- Minimize waste with a one-year shelf life for unopened products and two-week shelf life for open products
- Ready to use—no mixing required
- Contains no phenol red

Versatile Formulas Deliver Consistent Survival Rates Across Different Vitrification Media





Vit Kit - Warm NX was capable of warming human oocytes frozen in Vit Kit (A) and a top competitor's vitrification media (B).

Previously frozen MII oocytes were re-frozen in different vitrification media with the Cryolock device. MII oocytes were counted towards the survival rate and were recovered in CSCM-NXC for the immediate and 2h post-thaw time points. Study was performed in collaboration with World Egg Bank in Phoenix, Arizona, USA.

Ordering Information

Media	Catalog #	Size*	Additional Information
Vit Kit - Freeze NX	90188	3x1 mL Equilibration Solution 3x1 mL Vitrification Solution 1x1 mL Washing Solution	- Contains Dimethyl sulfoxide (DMSO) and ethylene glycol (EG) - Supplemented with 20% (v/v) Dextran Serum Supplement (DSS) for a final concentration of 10 mg/mL HSA and 4 mg/mL Dextran - 50 applications with oocytes - 60 applications with embryos
Vit Kit - Warm NX	90183	6x2 mL Thawing Solution 2x1 mL Dilution Solution 4x1 mL Washing Solution	- Supplemented with 20% (v/v) Dextran Serum Supplement (DSS) for a final concentration of 10 mg/mL HSA and 4 mg/mL Dextran -12 applications with oocytes and embryos

Discover the FUJIFILM Irvine Scientific Advantage

With more than four decades of cell culture experience, FUJIFILM Irvine Scientific has cultivated deep industry knowledge, advanced technical expertise, superior customer service, and reliable results—positioning us as a trusted partner of ART professionals across the world.

From novel IVF media solutions to innovative technology, FUJIFILM Irvine Scientific delivers the most advanced, economical, and flexible range of products for the modern IVF laboratory.

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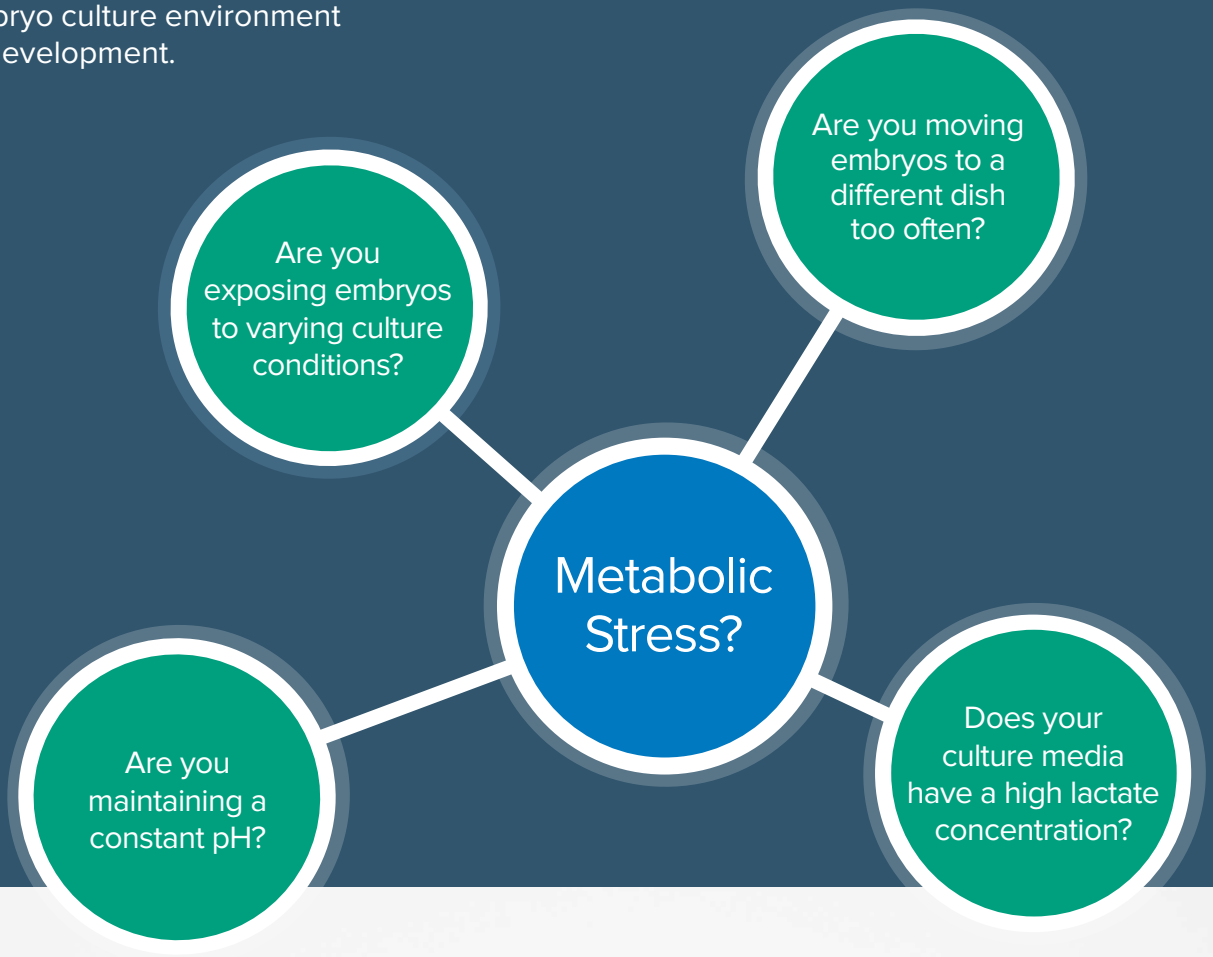
Continuous Single Culture-NX (CSCM-NX)

HELPS EMBRYOS MINIMIZE METABOLIC STRESS

Are Your Embryos On The Path To Metabolic Stress?

Stress in the embryo culture environment affects embryo development.



Continuous Single Culture-NX is a clinically-proven, low lactate, single-step medium that helps improve blastocyst development.

Lower Lactate Concentrations Maintain Efficient Metabolic Rates

Pyruvate, lactate, and glucose are main energy sources for oocytes and embryos, while pyruvate is the preferred energy source at early cleavage stages.[1,3]

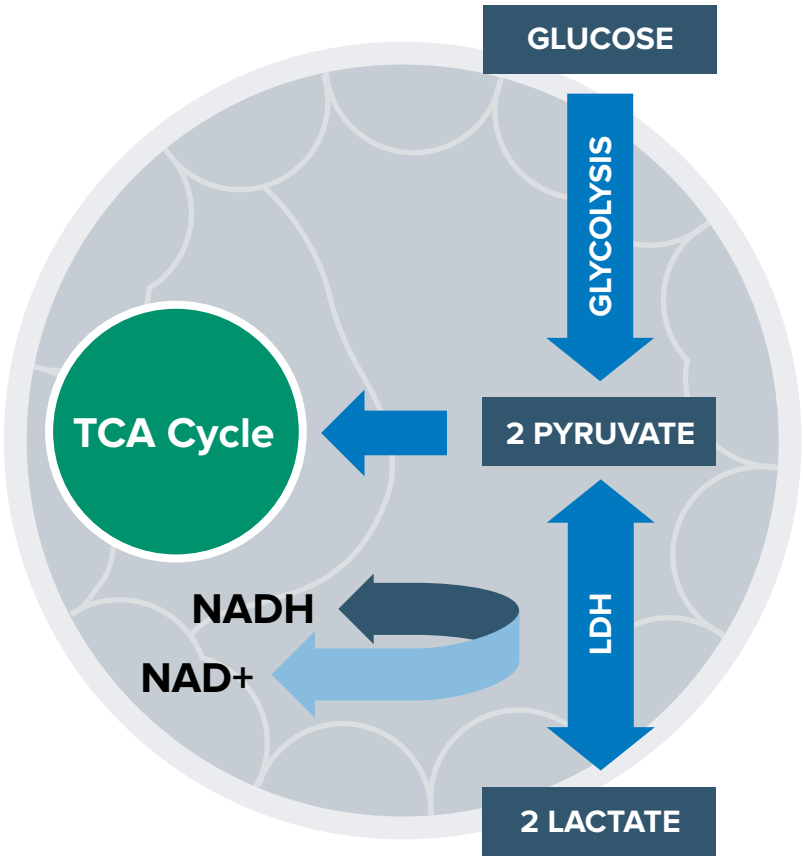
Glucose is naturally consumed by embryos at all stages of development. The consumption increases as the embryo progresses to the blastocyst stage.[2]

The glucose taken up from the culture medium is converted to pyruvate and then into lactate by lactate dehydrogenase (LDH), with the concomitant production of NAD+ from NADH. This reaction is reversible and operates close to equilibrium.[3,4]

Lactate is produced naturally by embryos from glucose metabolism, with two molecules of lactate appearing in the culture medium for every one molecule of glucose consumed.

As glucose consumption increases, production of lactate increases and accumulates in the culture medium, resulting in a negative influence on embryo metabolism due to reduced pyruvate conversion by LDH and oxidation.[3]

Excess lactate in the culture medium, in addition to pyruvate and glucose, can burden metabolic efficiency, as embryos naturally produce lactate during energy production.[1,3]



1 Gardner (1990)
2 White (2017)
3 Internal data on file
4 Lane (2000)

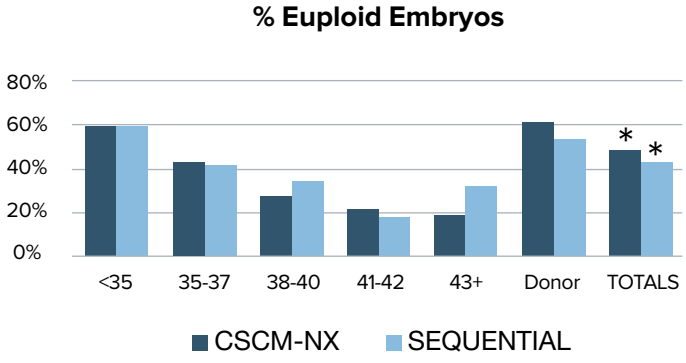
CSCM-NX Helps Reduce Stress On Embryo Development

In a clinical evaluation of over 8,000 embryos, embryos cultured in CSCM-NXC demonstrated improved development over those cultured in CSCM-C.†

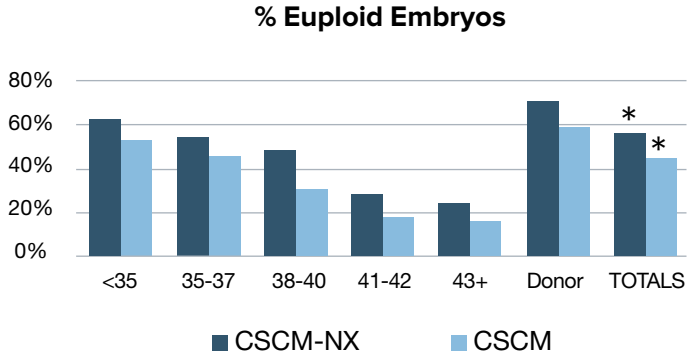
Embryo Culture Media		Fertilization Rate	Total-Usable Blastocysts	Good/Fair Quality Blastocysts on Day 5
CSCM-C	N=8021	70.7%	46.1%	41.4%*
CSCM-NXC	N=148	73.6%	48.4%	46.8%*

N=Number of embryos
*Differences were significant ($p<0.05$)

In a retrospective analysis of more than 6,600 embryos, embryos cultured in CSCM-NX had higher euploidy rates.‡



* Differences were significant ($p<0.05$)



* Differences were significant ($p<0.001$)

† Salmon, K, et al. "Improved Embryo development After Use of Irvine Scientific's Next Generation Continuous-Culture Media (NXC); ART Reproductive Center, Beverly Hills, CA USA, PCRS 2018

‡ VerMilyea, M.D, et al. "Stress Relief: Can Continuous Culture in a Low-Lactate Culture Medium Reduce Numerical Chromosomal Abnormalities and Therefore Improve Euploidy Rates?"; Ovation Fertility-Austin, Texas. ASRM 2018

10%
Increase in Mitotic Euploidy Embryos

With a lower lactate concentration, CSCM-NX improves mitotic euploidy rate by 10% when compared to a sequential culture system and Continuous Single Culture (CSCM).‡

Use CSCM-NX to help take embryos further

Continuous Single Culture–NX provides an optimal environment for embryo development by eliminating unnecessary stress.

- Lower lactate concentrations in the culture media keep metabolic rates efficient
- Minimize embryo disturbances
  - No dish changes
  - Reduce pH fluctuations
  - Reduce exposure to varying culture conditions
- Save on laboratory supplies
  - Reduce media usage – no medium changes
  - Fewer dishes and medium preparation steps

Ordering Information

Uninterrupted Culture Media

Item	Catalog #	Size	Additional Information	Shelf Life	Storage
Continuous Single Culture-NX Complete (CSCM-NXC)	90168	2 × 20 mL	Ready-to-use, pre-supplemented with Human Serum Albumin (5% v/v HSA), for a final total protein concentration of 5 mg/mL. Phenol red free. CE Marked.	4 weeks after opening 120 days*	2–8°C
Continuous Single Culture-NX (CSCM-NX)	90167	20 mL 60 mL	Requires protein supplement. Phenol red free. CE Marked.	4 weeks after opening 120 days*	2–8°C

Also Available

Item	Catalog #	Size	Additional Information	Shelf Life	Storage
Continuous Single Culture Complete (CSCM-C)	90165	2 × 20 mL	Ready-to-use, pre-supplemented with Human Serum Albumin (5% v/v HSA), for a final total protein concentration of 5 mg/mL. CE marked.	8 weeks after opening 120 days*	2–8°C
Continuous Single Culture (CSCM)	90164	60 mL	Requires protein supplement. CE marked.	8 weeks after opening 90 days*	2–8°C

*From date of manufacture

Simpler Processes.
Less Stress.
Better Results.

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