




The Best Possible Start

Continuous Single Culture-NX (CSCM-NX)

HELPS EMBRYOS MINIMIZE METABOLIC STRESS



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 and improve blastocyst utilization rates when used from fertilization through blastocyst stage.**
- **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

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}

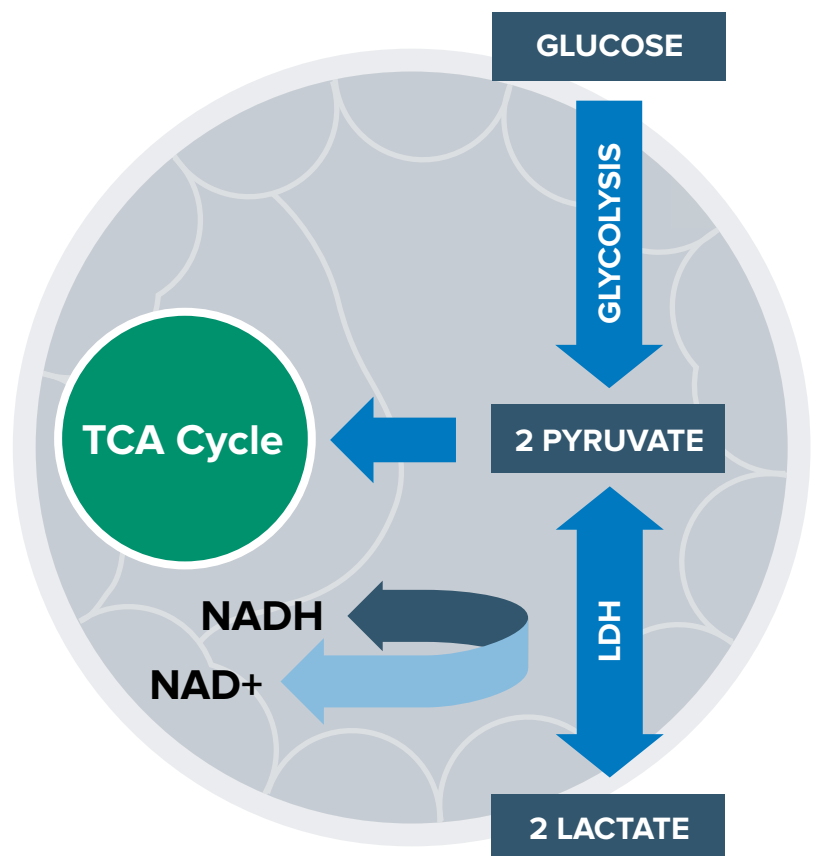
Glucose is naturally consumed by embryos at all stages of development. The consumption increases as the embryo progresses to the blastocyst stage.²

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)

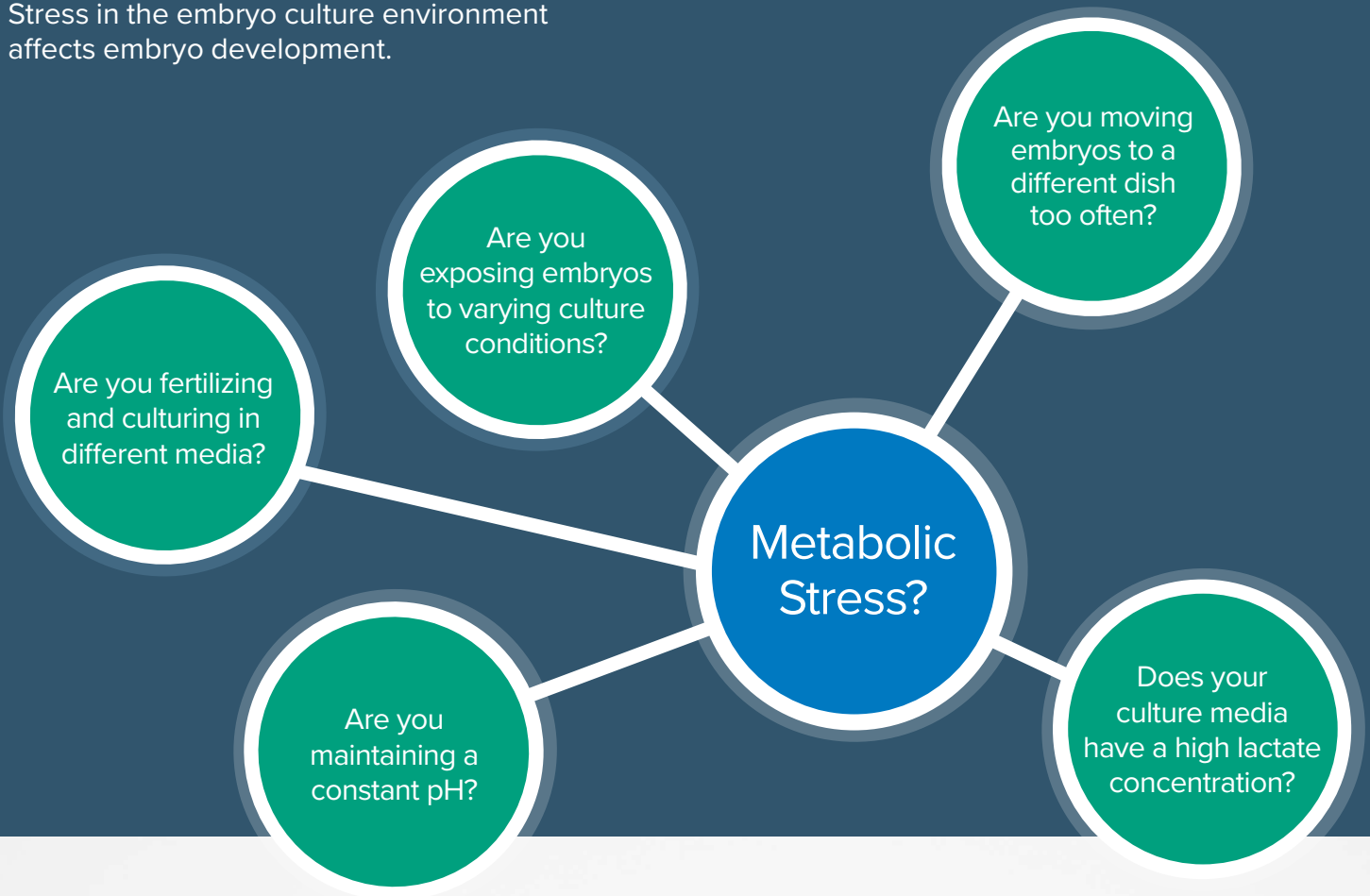
2 White (2017)

3 Internal data on file

4 Lane (2000)

Are Your Embryos On The Path To Metabolic Stress?

Stress in the embryo culture environment affects embryo development.



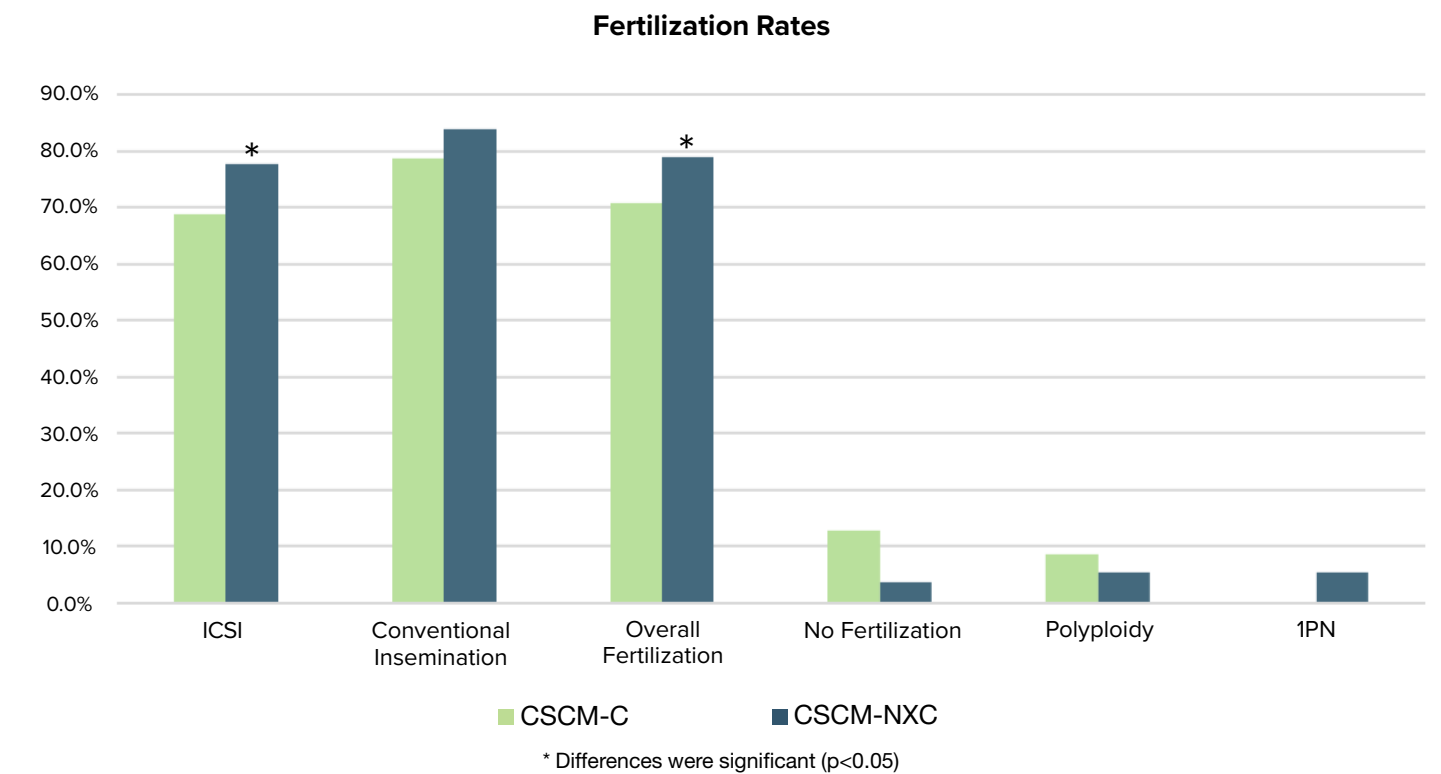
Continuous Single Culture-NX is a clinically-proven, low lactate, single-step medium that helps improve blastocyst development when used from fertilization through culture.



CSCM-NX Helps Reduce Stress on Embryo Development from Fertilization in All Patient Age Groups

In a two-year prospective analysis of over 3,300 cycles, fertilization rates were improved when using a low lactate system from fertilization through culture

Embryo Culture Media	ICSI Fertilization Rate	Conventional Insemination Rate	Overall Fertilization Rate	No Fertilization Rate	Polyploidy Rate	1 PN Rate
CSCM-C	69%	78.7%	70.8%	12.8%	8.5%	0.0%
CSCM-NXC	77.7%*	83.9%	79.0%	3.6%	5.4%	5.4%



Benini, "A low-lactate undisturbed culture medium protocol provides an increase in usable blastocysts on day 5 vs. day 6"; Demetra-GeneraLife Clinic, Florence, Italy

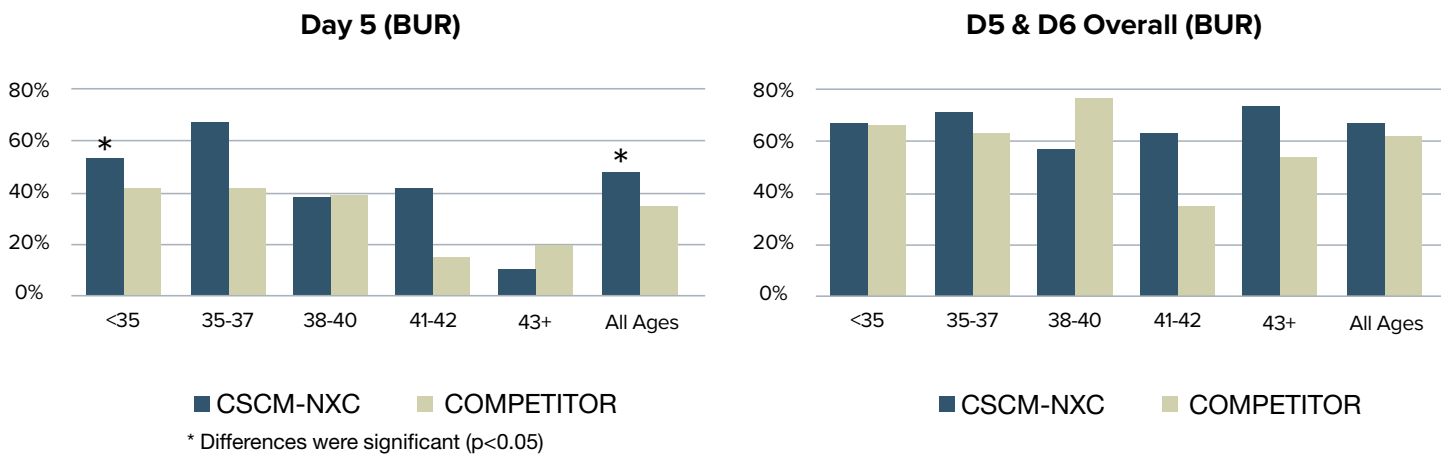
CSCM-NX Helps Reduce Stress On Embryo Development

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)

CSCM-NXC improves the day 5 blastocyst utilization rate (BUR) by age group** over competitor culture media.[‡]

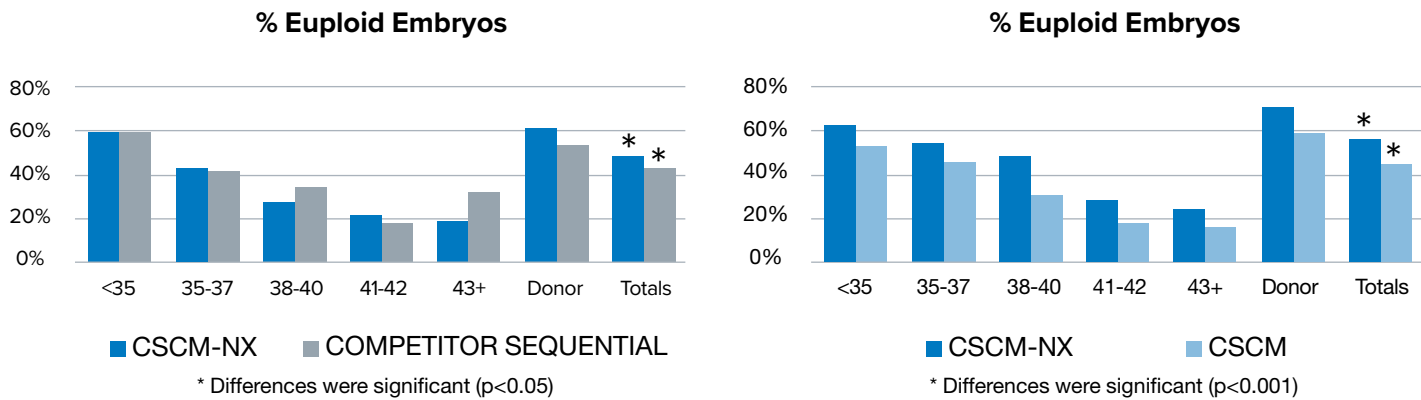


**Age groups defined by the Society for Assisted Reproductive Technology (SART)

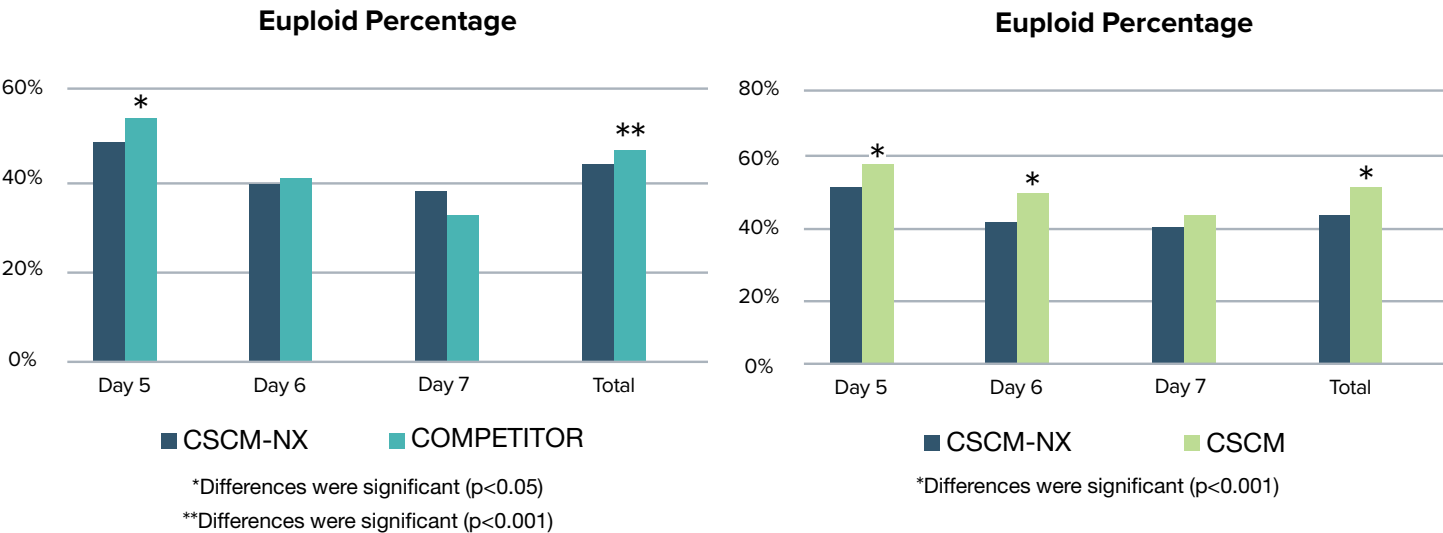
[†]Salmon, K, et al. "Improved Embryo Development After Use of Irvine Scientific's Next Generation Continuous-Culture Media (NXC)"; ART Reproductive Center, Beverly Hills, CA USA PCRS 2018

[‡]Manzo, Greco, "A continuous culture medium with a lower concentration of lactate has a pronounced effect on the percentage of usable blastocysts on day 5"; Villa Mafalda Clinic, Rome, Italy

A 2018, retrospective analysis of more than 6,600 embryos cultured in CSCM-NX determined that a lower lactate concentration improves euploidy rate by 10%, compared to both CSCM and a competitor sequential culture medium.[†]



A 3.5 year follow-up study demonstrated that the improved euploidy rates continued in CSCM-NX against a competitor’s sequential culture medium and CSCM.[‡]



[†] 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.

[‡] VerMilyea, “Positive effects of a low-lactate culture medium on embryo development and blastocyst ploidy status: a 3.5-year multi-clinic prospective review”; Ovation Fertility Austin and California Fertility Partners

Blastocyst utilization rates improve when maintaining a low lactate environment from fertilization through blastocyst.

In both labs, conventional insemination was performed in the same medium as culture.

Ordering Information

Uninterrupted Culture Media

Item	Catalog #	Size	Additional Information	Shelf Life	Storage
Continuous Single Culture-NX Complete (CSCM-NXC)	90168	2 x 20 mL 60 mL	Ready-to-use, pre-supplemented with Human Serum Albumin, 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	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 x 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



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