



ORIGIO® Sequential Series™

A media series for fertilization, culture and transfer



The new ORIGIO® Sequential Series™ builds on the knowledge gained over more than 20 years of invitro embryo culture, combining the most up-to-date scientific research with state-of-the-art production facilities and the highest level of quality control.

The ORIGIO® Sequential Series™ consists of 3 media – Sequential Fert™, Sequential Cleav™, and Sequential Blast™ – optimized to work in series, supporting the needs of the developing embryo.

Clinical data from 50 patients has provided early indications of the performance of the ORIGIO® Sequential Series™, where benchmark targets of media performance were well achieved. In a combined cohort of IVF and ICSI patients a 65% fertilization rate (2PN), 98% cleavage rate (per 2PN), and 59% blastocyst rate (per 2PN) were observed.



ORIGIO® Sequential Series™

The physiology and metabolism of the preimplantation embryo change as that embryo develops. The embryo's in vivo environment also changes as it moves through the female reproductive tract. Using different media to mimic the embryo's changing environment and metabolic needs, has been shown to be beneficial to embryo development, forming the basis of the sequential culture philosophy.

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Products relating to the dynamic field of ART require constant attention and care. Building upon a strong foundation of existing culture products, ORIGIO have updated and enhanced their sequential media range. The following table details the most significant changes made, and the literature supporting these changes.

Key Components	ORIGIO® Sequential Fert™	Universal IVF Medium	Literature
Non-essential amino acids	+ (L-alanyl-Gln)	-	Amino acids have been identified to support osmolytic and intracellular pH regulation, biosynthesis, energy sources, etc. Gardner <i>et al.</i> 2000. Seminar in Reprod. Medicine Biggers <i>et al.</i> 2004. Reprod. Biomed. Online
Organic osmolyte concentration	+ [High]	-	Organic osmolytes provide osmotic and biochemical support to cells. Baltz <i>et al.</i> 2010. Human reprod. Update
Vitamins	Ca-pantothenate Folic acid	-	The use of vitamins <i>in vitro</i> has become clearer in recent years. Pantothenate is essential for CoA biosynthesis and improves embryo development. Folic acid supports metabolic function and DNA synthesis and repair. McKiernan <i>et al.</i> 2000. Human Reprod O'Neil, C. 1998. Human Reprod Koyama <i>et al.</i> 2012 Reprod. Domest. Anim
	ORIGIO® Sequential Cleav™	ISM1™	
Non-essential and essential amino acids	+ (L-alanyl-Gln)	+ (Gln)	Amino acids play multiple roles such as osmolytic and intracellular ph -regulators, biosynthesis, energy source etc. Gardner <i>et al.</i> 2000. Seminar in Reprod. Medicine Lane <i>et al.</i> 2007. Best Practise & Research Clin. Obstetrics and Gynaecology.
Inorganic salt concentration (Mg/Ca)	+ (high ratio)	+ (low ratio)	The Mg:Ca ratio controls membrane stability and ion-channel permeability. A high Ca ratio induced under cellular stress is detrimental to embryo development. High Mg levels inhibits Ca uptake, and has been adapted in this media. Lane <i>et al.</i> 2000. Seminars in Reprod. Medicine Baltz. 2012 Methods Mol. Biol
Vitamins	Ca-pantothenate, Folic acid	L-Ascorbic Acid	Same as for ORIGIO® Sequential Fert™
Na-Hyaluronate	+	-	Hyaluronic acid has been shown to increase cell-to-cell adhesion and cell-to-matrix adhesion and increases implantation and clinical pregnancy rates. Bontekoe <i>et al.</i> 2010. Cochrane review
	ORIGIO® Sequential Blast™	BlastAssist®	
Non-essential and essential amino acids	+ (L-alanyl-Gln)	+ (N-acetyl-Gln)	Amino acids play multiple roles such as osmolytic and intracellular ph -regulators, biosynthesis, energy source etc. Essential AA are added in high conc. to reflect the increased metabolism at this stage. Gardner <i>et al.</i> 2000. Seminar in Reprod. Medicine Lane <i>et al.</i> 2007. Best Practise & Research Clin. Obstetrics and Gynaecology
Organic osmolyte concentration	+ [High]	+ [low]	An increased osmolyte concentration to maintain a consistent sequential environment. Baltz <i>et al.</i> 2010. Human reprod. Update
Na-Hyaluronate	+	-	Same as for ORIGIO® Sequential Cleav™