

Case Study: Vit Kit-NX Suite Demonstrates High Implantation and Pregnancy Rates Equivalent to Vit Kit Suite

Updated Vit Kit-NX system from FUJIFILM Irvine Scientific provides smooth transition for clinicians utilizing original vitrification system.

Introduction

Aspire Houston Fertility Institute has utilized Vit Kit – Freeze and Vit Kit – Thaw from FUJIFILM Irvine Scientific for more than eight years, during which time excellent and stable embryo transfer, implantation, and clinical pregnancy rates were achieved. With the introduction of updated Vit Kit-NX products, Dr. Wei Hua Wang, IVF Lab Director, sought to determine if similar results could be effectively achieved utilizing the new system, Vit Kit-NX.

Methods

Between November 2019 and December 2021, Dr. Wang's lab evaluated single embryo transfer, implantation, and clinical pregnancy rates. Multiple vitrification devices were utilized with Vit Kit – Freeze (FUJIFILM Irvine Scientific, PN 90133-SO) for 310 cycles, and later Vit Kit – Freeze NX (FUJIFILM Irvine Scientific, PN 90188) for 2,781 cycles. Embryos were subsequently warmed in Vit Kit – Warm NX (FUJIFILM Irvine Scientific, PN 90183), starting with 500 µl of thawing solution, one drop of 160 µl of dilution solution, and finally washed in two drops of 80 µl each of washing solution. The embryos were then recovered in media supplemented with 5 mg/mL Human Serum Albumin (HSA).



Biography

Wei Hua Wang, PhD
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Dr. Wang is the IVF Lab Director of Aspire Houston Fertility Institute. He earned his doctorate in reproductive physiology from Okayama University in Japan, and has worked in embryology and infertility laboratories for more than 20 years, including Women and Infants Hospital, Brown University School of Medicine, New England Medical Center, and Tufts University School of Medicine before joining Aspire Houston Fertility Institute. Founded in 2001, Aspire Houston Fertility Institute is the largest clinic in the Prelude/ Inception network and performs about 4,000 cycles per year. With proficiency in manipulating human embryos, including IVF, ICSI, assisted hatching, and cryopreservation of gametes and embryos, Dr. Wang is widely recognized nationally and internationally as an expert in his field.

Conclusion

After evaluating embryos vitrified with Vit Kit – Freeze and warmed with Vit Kit – Warm NX (“Cross-Warming” in **Figure 1**), it was demonstrated that high implantation and pregnancy rates could be achieved, and that results were equivalent to utilizing Vit Kit – Thaw.

Performance remained consistent after vitrifying embryos with the new Vit Kit – Freeze NX and warming with the new Vit Kit – Warm NX (“After” in **Figure 1**), indicating a smooth transition to the Vit Kit–NX suite.

Figure 1. Strong performance of embryos vitrified and warmed with new vitrification media: Vit Kit – Freeze NX and Vit Kit – Warm NX

Embryo Performance	Before	Cross-Warming	After
	Vit Kit – Freeze & Vit Kit – Thaw	Vit Kit – Freeze & Vit Kit – Warm NX	Vit Kit – Freeze NX & Vit Kit – Warm NX
Total Warmed:	2,343	310	3,202
Survival Rate:	97.7%	99.2%	98.5%
Single Embryo Transfer Rate:	78.4%	81.9%	87.5%
Implantation Rate:	49.6%	54.0%	53.5%
Clinical Pregnancy Rate:	56.0%	60.0%	57.4%



We have used FUJIFILM Irvine Scientific’s vitrification and warming kits for more than 8 years and they are great products for embryo and oocyte vitrification. We have maintained very stable and excellent survival rates and implantation rates with their products. We were excited to try the new product because of the formulation improvements, and are very pleased with the results.

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