

Vit Kit-NX Offers Superior Performance in Oocyte Banking Process for Egg Donor Centers and Receiving Labs/Clinics

Assisted Reproduction Technology (ART) clinicians are often challenged to achieve high survival rates in oocytes. In this case study review with Daniel Madero, Director, Third-Party Services, Ovation Fertility, FUJIFILM Irvine Scientific discusses how Vit Kit-NX simplified and supported the vitrification process and overall high oocyte survival rates within the clinic.

Q: Would you please introduce yourself?

A: My name is Daniel Madero and I am currently working as the Director of third-party services at Ovation, where I direct both the Gestational Carrier Program (GCP) as well as Ovation Donor Services (ODS). I have been working in the IVF industry for about 12 years and fulfilled various responsibilities in operations, finance, and consultancy before I moved into my current role.

Q: How many oocyte vitrification cycles does Ovation Donor Services perform each year?

A: Last year, we performed over 1,000 oocyte vitrification cycles, and, looking at the current trend, we are projected to perform 20% more this year.

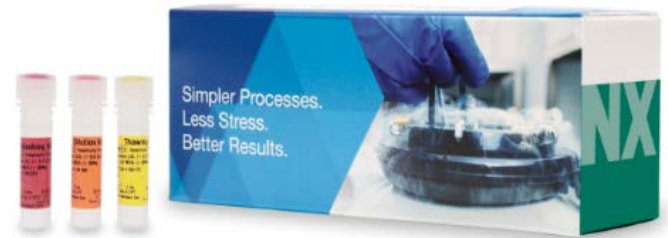
Q: How long have you used Vit Kit-NX? Why did Ovation Donor Services choose Vit Kit-NX and how does it help your overall oocyte banking process?

A: Ovation Fertility Donor Services has used Vit Kit-NX since early 2020. Before we decided on Vit Kit-NX, we were creating and using our proprietary formula. However, we wanted to improve efficiency and standardize protocols and banking processes within our three locations. We decided to switch to using commercial vitrification and warming kits.

Our Vice President of Scientific Advancement, Dr. Matthew “Tex” VerMilyea, working with a team of our embryologists tested and compared various vitrification and warming kits. The team concluded that the best performing kit was Vit Kit-NX.

We liked the Vit Kit-NX formulation and the microdrop protocol because it was easy to use, reproducible, and enabled standardization between our labs and those labs which receive vitrified oocytes from our donor oocyte program. It fits with our priorities in the oocyte banking process and offers superior performance.

In our hands, we have found that the extracellular cryoprotectant, trehalose, and dual HEPES/MOPS buffer formulation provides a more stable environment during the vitrification process and we are very pleased with our historical and ongoing results.



Q: How do you use Vit Kit-NX? Does Ovation Fertility Donor Services adjust the protocol in any way to fit the egg banking procedure?

A: After oocytes are retrieved from the donor, they are denuded to allow the embryologist to separate the mature oocytes for vitrification.

The selected oocytes are vitrified at room temperature (20–27°C) using Vit Kit – Freeze NX and we usually vitrify up to four oocytes at a time using two devices.

First, we dispense one 20 µL drop of WS and two 20 µL drops of ES (ES1 and ES2) all within close proximity. The oocytes are placed in the WS for 1 minute. Then, we merge the WS drop and the ES1 drop using a stripper tip, allowing the two drops to mix while being careful not to disturb the oocytes.

We leave the oocytes there for 2 minutes before merging the previously merged drops with the ES2 drop. The oocytes will remain there for another 2 minutes before we transfer them to a fresh 20 µL drop of ES (ES3) where they will remain for 6–10 minutes.

Once the appropriate time has passed, two oocytes at a time will be rinsed in a 50 µL drop of VS for 60 seconds. Finally, the oocytes are loaded into the vitrification device and plunged into liquid nitrogen within 80 seconds of being placed into the VS.

Q: Please share your overall experience using Vit Kit-NX and how it performed on oocytes collected in Ovation Fertility Donor Services.

A: This is an easy-to-use protocol and kit. We use the recommended protocol of Vit Kit – Freeze NX and Vit Kit – Warm NX, and the overall experience has been wonderful. One of the main benefits is that it allows our experienced embryologists to do multiple freezes at one time and at offset intervals.

Additionally, the ability to send preset working protocols for thawing has been good for standardizing our three donor centers (we are looking to grow this number). Standardization enables us to look at our data from an objective point of view and better track how these eggs are thawing and whether there is any problem with the vitrification side.

To date, we have warmed 600 eggs with a 95.5% survival rate. This rate is the same at our different clinics despite each having its own thaw kit and warming procedure.

Additionally, our fertilization rate for ICSI is 79%; usable blastocysts rate per 2PN (ICSI) is 54.7%; implantation rate is 50%; initial pregnancy rate is 54%, and ongoing pregnancy rate is 54%.

Q: Would you like to share any additional information or comments?

A: By standardizing processes already in existence within the receiving clinics, we have seen survival rates increase and there has been no hesitation from clinics/labs to receive oocytes vitrified in Vit Kit-Freeze and warmed in Vit Kit - Warm NX.

For our vitrification lab, the procedure was easy to implement. Overall, Vit Kit-NX offers an easy-to-use protocol with the benefit of being able to easily track success rates across the board.

Embryo Performance	n	Percentage
Oocytes Warmed	594	
Oocyte Survival	567	95.5%
Fertilization per ICSI	448	79.0%
Usable Blastocysts per 2pn (ICSI)	245	54.7%
Implantation Rate	38	50.0%
Initial Pregnancy Rate	36	57.1%
Ongoing Pregnancy Rate	34	54.0%