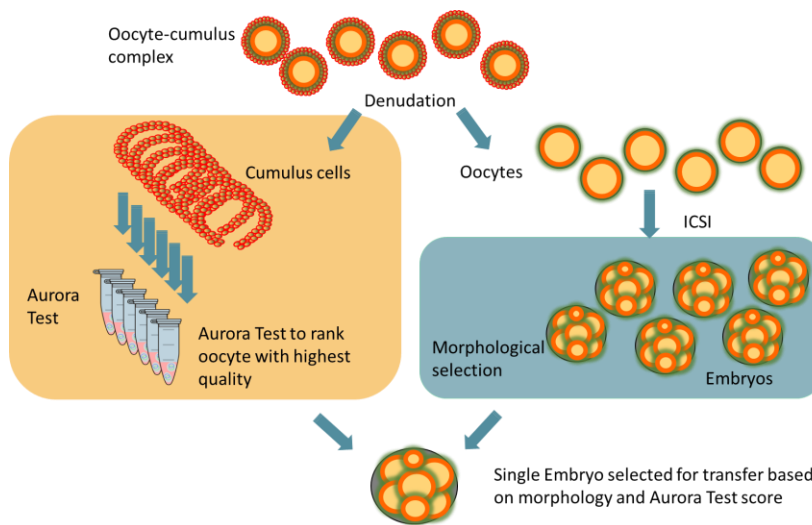


The Aurora Test

Oocyte competence prediction

The Aurora Test measures the potential of an oocyte to develop into a normal healthy child after ICSI. After testing the cumulus cells of each oocyte from a woman after hormone stimulation, the embryo from the oocyte with the highest potential will be transferred into the uterus.

Applying this technology in IVF practice has shown that pregnancy rates have doubled (from 29% to 61%) and live birth increased from 27% to 50% after transfer of a single embryo on day 3.



Aurora Test principle

The Aurora Test is performed on cumulus cells from all oocytes from a patient. The test is based on the measurement of five specific gene expressions.

Cumulus cells are isolated from all oocytes and RNA is then extracted from the cumulus cells for each of the harvested oocytes. cDNA synthesis and real-time PCR is done using 3 predictive genes and two control genes. PCR results lead to a ranking for all oocytes.

Figure 1. Aurora Test principle

High prediction power for live birth

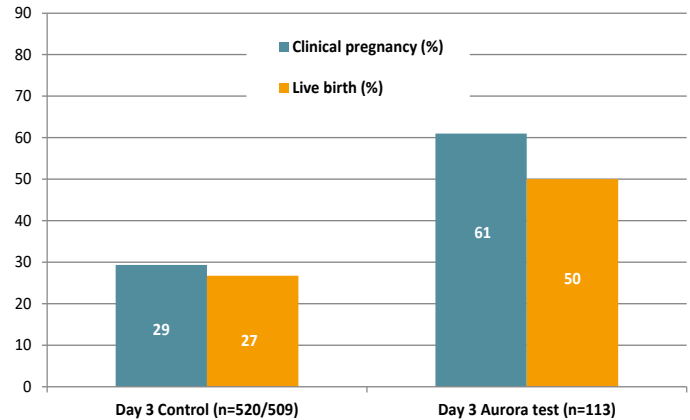
The table below shows the accuracy for the prediction for live birth related to the different stimulation protocols. The results are obtained by analysing the cumulus gene expressions and comparing the outcomes (maturation, fertilization, blastocysts development, transfer, pregnancy, live birth) of cumulus cells from >1000 oocytes (publication submitted).

Stimulation protocol	Brand	Aurora Test Genes Predicting Live Birth from blastocyst transfer	Area Under the curve	Accuracy
HMG	eg Menopur, Meriofert	CAMK1D, EFNB2, SASH1	0,80	80%
rFSH	eg Gonal-F, Rekovelle, Bemfol, Puregon	GOT1, HAS2, SASH1, PGTS2	0,73	70%
rFSH+rLH	Pergoveris	GOT1, HAS2	0,95	88%

Pregnancy rate doubled from 29% to 61% in a prospective clinical trial in Europe

- Two arm study: Aurora test arm with D3 SET and a control arm with D3 SET without Aurora Test
- 113 tested patient (majority Caucasians and some Arab patients) and 520 control patients
- Age 22-39 years of age, good ovarian response, no severe male infertility
- Stimulated by HP-hMG (Menopur) and single-embryo transfer (SET) policy

Van Vaerenbergh et al. Improved clinical outcomes after non-invasive oocyte selection and Day 3 eSET in ICSI patients. Reproductive Biology and Endocrinology. 2021 February 19:26

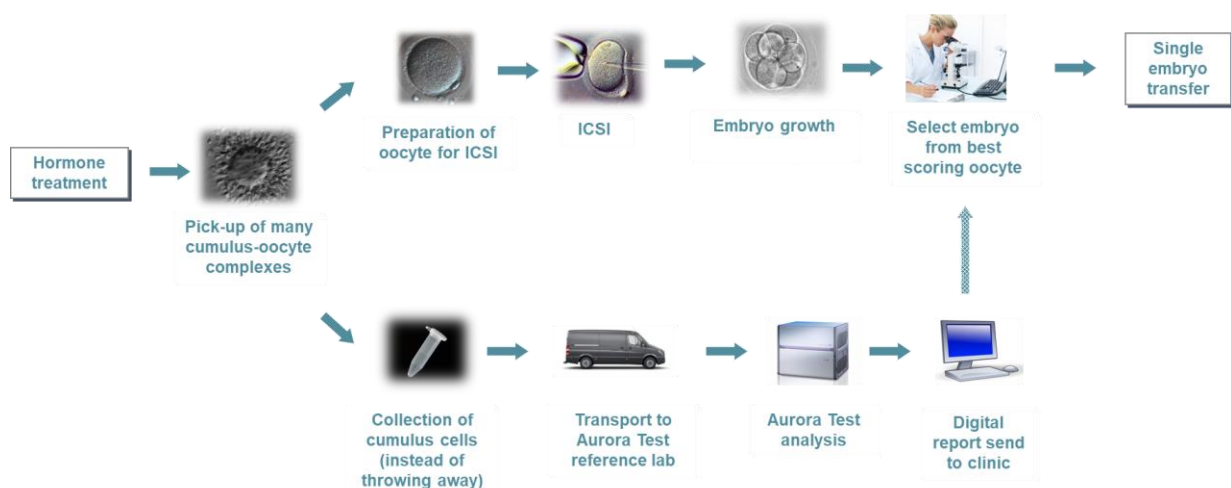


Three Aurora Test are available and offered as centralized service

The patients could benefit from the test if they have a good ovarian reserve, which will lead to multiple embryos. The patients should be stimulated with an antagonist protocol and HP-hMG hormones or rFSH hormones or rFSH+rLH with HCG trigger, followed by ICSI.

Fertiga has developed three hormone specific Aurora Tests: for HP-hMG hormones (Aurora-HMG Test), for rFSH hormones (Aurora-rFSH Test) and for rFSH+rLH (Aurora-rFSH+rLH Test). Below example of fresh transfer.

- DAY 0: cumulus-oocyte complex pick-up. Cumulus cells must be removed for each oocyte by embryologist and individually collected into bar-coded tubes.
- DAY 0-1: Samples will be transported to the clinical testing lab which runs the Aurora Test
- DAY 1-2: Aurora Test (RNA isolation, QPCR and analysis) is done in the clinical testing lab.
- DAY 2-3: Clinical testing lab will communicate Clinical Report to IVF clinic. Report gives a ranking of all oocytes and specifies which cumulus-oocyte complex has the best score.
- DAY 3 or DAY 5: Embryologist uses this score besides his morphological evaluation to select the best embryo for transfer.
- In case there is no pregnancy from a first transfer, the supernumerary embryos which were vitrified will also be transferred following the score.



Contact

www.fertiga.com

Prof. dr. Johan Smitz (johan.smitz@fertiga.com)

Elien Van Hecke, MSc (elien.vanhecke@fertiga.com)

Piet Lannoo (piet.lannoo@fertiga.com)