

CONTEXT

In the context of medically assisted procreation the Intra Cytoplasmic Sperm Injection success rates are around 20%. These low success rates can be explained by the lack of objective criteria during oocytes selection. Indeed, clinicians select them through morphological visual criteria, which depend only on their skills and experience.

DESCRIPTION & DEVELOPPEMENT

Added stage to existing ICSI platform that provides precise oocytes mechanical properties in order to select the best oocyte to be fertilized, best ICSI timing and embryo transfer.

Completed developments:

- Automation of oocyte mechanical characterization (quantitative data) in the medically assisted reproduction center of Besancon
- Measurement of absolute values based on a standard calibration method
- Production of a prototype platform

Current developments:

- Consolidation of mechanical characterization data of oocytes in medically assisted procreation center

Upcoming development:

- Correlation of the mechanical behavior of an oocyte with the probability of achieving pregnancy
- First clinical trials on oocytes intended to be fertilized

COMPETITIVE ADVANTAGES

- Optimizing the Efficiency of Oocytes Selection, ICSI timing and Embryo transfer to Maximize ICSI Success rates
- Tool already deployed in fertility center of the Teaching Hospital in Besancon and adaptable to current platforms (Nikon, Leica, etc,)
- Save Time (for patients and staff) and Reduction of healthcare costs



Market & Application

Medically assisted reproduction market

- ❖ Test of oocytes intended for in-vitro fertilization by intracytoplasmic sperm injection (ICSI)

Metrology Research Laboratories (precise measurement of nanoforces)



Stage of development

Prototype undergoing validation in a representative environment(TRL 5-6)



Research Team

FEMTO-ST Institute
Franche-Comté University - CNRS



Intellectual property

Patent ID : WO 2018172688
Applications in Europe, Canada, China, India and Japan



Partnership

Co-development of technology to meet the manufacturer's needs

CONTACT-US

Thomas BLUM

Business Development Manager

+33 (0)6 17 06 68 07



Thomas.blum@sayens.fr