ÉlpisÉremo Announces Breakthrough Biosignature Technology to Bring Humans One Step Closer to the Holy Grail of Fertility

ELPISEREMO & RGI EAST Announce Breakthrough Biosignature Recognition Platform, OculiDeus™, to Augment Assisted Reproductive Technology Pregnancy Success Rates

TOKYO, JAPAN, January 24, 2024 /EINPresswire.com/ -- ELPISEREMO, a precision bioengineering regenerative-medicine company, has successfully developed a ground breaking noninvasive Biosignature Recognition Technology, called OculiDeus™, that swiftly facilitates the identification and selection of high-quality viable eggs (oocytes) - with dramatic improvement in prediction and high diagnostic accuracy - during infertility treatment, and is expected to greatly contribute to increasing pregnancy success rates.

One of the major problems associated with infertility treatment is age-related decline in ovarian function, or the aging of eggs. The quality of a woman's eggs is the single most important limiting factor for a woman to get pregnant and have a baby. High-quality eggs have the best chance for achieving a successful pregnancy. Egg quality refers to whether an egg is chromosomally normal or abnormal.

A Healthy Newborn Baby That Every Family Longs For

ELPISEREMO, a Precision Bioengineering Regenerative-Medicine Technology Company

Reproductive Genetic Innovations East (RGI-E)

"Many people believe that women at the age of 40 can get pregnant because of fertility treatments. However, in reality, a 40-year-old woman has just 3% of the eggs remaining that she had at puberty. Each month after month, as the biological clock is ticking, the percentage of genetically abnormal eggs increase correlates with the progressive loss of both the number and quality of chromosomally normal eggs - which eventually run out with time." said Oleg Verlinsky, CEO of Chicago's RGI (Reproductive Genetic Innovations).

"I was once told by Dr. Robert Edwards, the Nobel Prize winner for pioneering in vitro fertilization (IVF) procedure, 'the most important thing to achieve higher pregnancy rates in infertility treatment is in the selection of oocytes (eggs). No matter how good the infertility hospital is, If the selection of eggs is incorrect, it will be more difficult to achieve pregnancy. Therefore, the most important thing is a good embryologist'" said James Ryan, CEO of ELPISEREMO, and Executive Director of RGI-EAST "It took nearly 20 years to develop a breakthrough technology solution has the potential to revolutionize infertility treatment, assess and preserve highly-valued eggs, and prevent pregnancy Loss and miscarriages. My wife and I suffered for years from devastating pregnancy loss and intractable infertility problems. We repeatedly sought help from several famous hospitals for infertility treatments - but failed. We are deeply aware of the deep pain many couples face with repeated pregnancy loss, and intractable infertility. We aim to solve this major problem of infertility treatments, which is the selection of eggs with low pregnancy rates."

In a major leap toward augmenting Assisted Reproductive Technology (ART), ELPISEREMO and Reproductive Genetic Innovations East (RGI EAST) are introducing groundbreaking Biosignature Recognition Technology, OculiDeusTM, that has the potential to revolutionize high diagnostic assessment, predictive analysis, accurate identification and selection of high-quality eggs in real-time to increase fertility rate success.

OculiDeusTM is an advanced high-resolution hyperspectral camera vision system -with a myriad of optical sensors, accelerates diagnostic accuracy and precision assessment of human cells, eggs (oocytes), tissue and organs, molecular signature insights, which is powered by Proprietary Biological Artifactual Intelligence Model (BAiM) to significantly boosts performance.

"We have developed, and we are constantly implementing, OculiDeusTM and related software with integrated AI Assistant, to acquire real-time signatures from human oocytes prior to, and after intracytoplasmic sperm injection (ICSI). Such signatures are deployed to afford a direct, high-accuracy prediction of the ongoing chance for successful fertilization. The capability to decipher pre-ICSI signatures, indicating a favorable post-ICSI outcome, allows an unprecedented strategy and chance for dramatically reducing the number of human oocytes targeted for cryopreservation at the pre-ICSI stage, as only the ones suitable for a good post-ICSI outcome will be cryopreserved. Thanks to our AI assistant, a Library of defined HSI signatures will be created and constantly updated in a subject specific fashion, to provide women with a timely, accurate, and personalized HSI pattern associated with the best, implantable and cryopreservable oocytes." said Prof. Carlo Ventura, CSO of ELPISEREMO.

“Our strategy will allow a significant optimization of pre-ICSI cryopreservation of human oocytes, therefore remarkably reducing the invasiveness of a blind multiple oocyte harvesting, which is currently performed in the absence of clear predictive signatures for future IVF outcomes. Worthy to note, the chance for affordable pre-ICSI identification of the suitable-for-ICSI oocytes will afford the optimization of oocyte harvesting and cryopreservation in women affected from diseased states that will over time hamper the chance for successful pregnancy and/or IVF throughout the life span. This may be the case for women suffering from endometriosis, or any genetically determined disease involving a progressive decline in the chance/potential for successful pregnancy/IVF. Within this context, our platform will provide a unique chance for completely re-visiting and optimizing the pre-ICSI harvesting and cryopreservation in patients suffering from neoplastic uro-genital diseases, including ovarian cancer. In these conditions, affected women are increasingly giving their chance for a post-surgery pregnancy to the pre-surgery harvesting and cryopreservation of their own oocytes. Limiting the cumbersome approach of a necessarily excessive number of oocyte harvesting, and coming out of what has remained so far a “blind procedure”, would no doubt benefit future women generations.” said Prof. Carlo Ventura, CSO of ELPISEREMO.

ELPISEREMO trans-disciplinary team is working to make available unprecedented tools and strategies to optimize in vitro fertilization and human reproduction, therefore counteracting human infertility.”

ELPISEREMO is a precision bioengineering regenerative-medicine company whose platform technology precisely targets, harnesses and instructs the body's own tissue-resident cells, to produce nearly any therapeutic and regenerative protein, in place, with on/off precision, without the need to inject small-molecule drugs, mRNA, stem cells, or chemicals. ELPISEREMO mission is to accelerate delivery of the best-in-class, or first-in-class, pipeline of curative treatment modalities for those suffering with high unmet medical needs from a wide-range of devastating diseases, dysfunctions and disorders for which there is no cure.

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Reproductive Genetic Innovations (RGI) an internationally recognized leader in assisted reproductive technologies, a pioneer in the field of preimplantation genetic testing (PGT) who has performed preimplantation Genetic Testing for thousands of families all over the world - being the first U.S. lab to perform PGT successfully for a single gene disorder. RGI remains the most experienced PGT-M laboratory, worldwide.
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