

New Test Kit Improves In Vitro Fertilization Success Rates

McGill University



In vitro fertilization (IVF) can be an emotional roller coaster for many couples, one that often ends in disappointment; using current methods, about 85 percent of healthy-looking embryos transferred through IVF fail to result in pregnancy. Aside from the emotional toll this takes, IVFs are expensive and not always covered by health insurance.

Researchers at McGill University in Montréal, Canada, have developed a rapid, noninvasive test for determining compatibility between an embryo and a potential mother. Professors David Burns, Ph.D., and James Posillico, Ph.D., at McGill's department of chemistry developed Via-Test™-E in 2006-2007. Funding was provided by The Natural Sciences and Engineering Research Council of Canada, Canadian Institutes of Health Research, and Molecular Biometrics, a medical technology company.

“*ViaTest™-E targets in vitro biomarkers of oxidative metabolism (OM) that are indicative of embryo viability. The degree of OM is basically a measure of the level of oxidative stress in the cells.*”

Embryos and gametes that are highly stressed are less likely to result in pregnancy. ViaTest™-E enables the rapid, simultaneous identification and analysis of multiple OM biomarkers in a single sample. This methodology leads to the accurate detection of viable embryos of high reproductive potential.

Current practices grade and select embryos for implantation based on their morphology, or how they look. This is a subjective and inaccurate practice that leads to high failure rates. To counter this, a common practice is transferring multiple embryos. This, in turn, results in higher incidences of multiple births and increased health care risks to mothers and infants. When combined with morphology, ViaTest™-E provides the most accurate method for identifying the healthiest and most compatible embryos.

Molecular Biometrics has licensed the technology from McGill University and is marketing the test kit. This product is the first of its kind and has generated interest around the world. Long-term use of ViaTest™-E is expected to increase pregnancy rates, lower multiple births, and reduce health risks to mothers and babies.

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