

IVF Pre-Implantation Screening Method

A team at the University of Warwick has developed a new screening test that potentially provides an accurate and non-invasive method for assessing embryos during IVF treatment, prior to implantation.



POOR SUCCESS RATES FOR IVF TREATMENT

Pregnancy rates following IVF treatment are limited even upon the replacement of 'top quality' embryos. Embryos are screened by morphological analysis or pre-implantation genetic screening (PGS), both of which have their limitations.

Morphological analysis involves grading of the embryos by an embryologist resulting in variability between centres. Embryos are constantly developing and changing and this method still fails to result in pregnancy in 36.5% of cases.

PGS involves genetic analysis of cells removed from embryos via aspiration. It requires at least two top quality blastocysts for analysis and is thus inapplicable to many patients. It is expensive and invasive and the full consequences of this procedure are not completely understood.

THE WARWICK TECHNOLOGY

The Warwick team has identified protein biomarkers that are released by the embryo during culture indicating the health of the embryo. Embryos are cultured in individual drops of culture medium and the Warwick team have devised a simple test that can be performed on embryo conditioned medium which, along with morphological analysis, gives a much better indication of the embryo's viability than any of the currently used techniques.

KEY BENEFITS

The key benefits of the new test are expected to be as follows;

- ❖ The test is non-invasive and doesn't interfere with the development of the embryo.

- ❖ The technique is relatively very cheap and uses a by-product of the embryo culture that would otherwise be discarded.
- ❖ The test is easy to perform and results would be consistent, independent of the centre at which performed.
- ❖ The results would be produced quickly and the test is applicable to all patients undergoing IVF where an embryo is produced.

PROJECT STATUS

Tests on a small-scale have shown correlation of the biomarker proteins in embryo conditioned culture medium with IVF implantation success. The University is now looking for commercial partners who will be interested in collaborating with the research team on a proof-of-concept study and to roll out the technology commercially thereafter.

PATENT & PUBLICATION

This biomarkers and test are the subject of a UK Priority patent application (unpublished and available under a suitable CDA):

1519944.1 Preimplantation Screening

CONTACT

Further information is available on request from:
Dr Suzanna Wood, Warwick Ventures Ltd, Tel: +44 (0) 24 7657 5490, or via s.k.wood@warwick.ac.uk