



ADVERSE PREGNANCY OUTCOMES: OPPORTUNITY FOR ANALYSIS OF BIOSPECIMENS AND CO-DEVELOPMENT OF PROGNOSTICS

SUMMARY

The Eunice Kennedy Shriver National Institute of Child Health and Human Development's Pregnancy and Perinatology Branch seeks partners interested in collaborative research to: (i) evaluate data and samples taken from women for potential biomarkers indicative for adverse pregnancy outcomes and (ii) co-develop diagnostic kits useful as predictors of adverse pregnancy outcomes.

REFERENCE NUMBER

E-000-2014

PRODUCT TYPE

- Diagnostics

KEYWORDS

- pregnancy
- preterm birth
- preeclampsia
- nuMoM2b

COLLABORATION OPPORTUNITY

This invention is available for licensing.

CONTACT

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DESCRIPTION OF TECHNOLOGY

The *Eunice Kennedy Shriver* National Institute of Child Health and Human Development's [Pregnancy and Perinatology Branch](#) seeks partners interested in collaborative research to: (i) evaluate data and samples taken from over 10,000 nulliparous women who were followed from their first trimester of pregnancy, for potential biomarkers indicative for adverse pregnancy outcomes and (ii) co-develop high performance, clinically-applicable biomarker diagnostic kits useful as predictors of adverse pregnancy outcomes such as spontaneous preterm birth, preeclampsia, and fetal growth restriction.

Biomarkers of placental function, inflammation, infection, metabolic status, and genetic risk, are likely to



be valuable in predicting poor pregnancy outcome. There are several technologies that hold potential to detect predictive biomarkers. These include analysis of known serum, plasma, urine and cervicovaginal fluid biomarkers, metabolites, and proteins as well as discovery using metabolomics, proteomics, genomics, and analysis of the microbiome.

POTENTIAL COMMERCIAL APPLICATIONS

Preterm birth, preeclampsia and fetal growth restriction are leading causes of infant morbidity and mortality. For women in their first pregnancy, there is no history to guide management. In addition, women with adverse pregnancy outcomes in their first pregnancy are more likely to have adverse outcomes in their subsequent pregnancies. Therefore, commercial tests for risk of poor outcome, such as a panel of markers early in pregnancy that would predict adverse outcome in the first pregnancy, would be invaluable. In addition, due to the heterogeneity of conditions that cause poor outcome, there is an opportunity to develop tests that would provide more individualized prediction and intervention.

COMPETITIVE ADVANTAGES

This is a large prospective study of women in their first pregnancy and includes a diverse U.S. population. The following biospecimens are available: cervicovaginal secretions, maternal DNA, maternal sera, maternal plasma, maternal urine, placenta, membranes, umbilical cord, and umbilical cord blood. Biospecimens were collected at the following study visits: (1) 6 0/7 and 13 6/7 weeks gestation, (2) 16 0/7 and 21 6/7 weeks gestation, (3) 22 0/7 and 29 6/7 weeks gestation, and (4) delivery. In addition detailed clinical, ultrasound, and other information resulting in well-phenotyped pregnancies is available.

INVENTOR(S)

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DEVELOPMENT STAGE

- Pre-clinical (in vivo)

PATENT STATUS

- Not Patented: NONE
- Not Patented: NONE

THERAPEUTIC AREA

- Reproductive