

# Development of a multimolecular and multimodular biomarker panel for the early screening, molecular distinction and clinical follow-up of patients developing preeclampsia/HELLP syndrome and its preparation for preclinical testing

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## Technology description

### Technology Summary:

Preeclampsia is a pregnancy complication characterized by high blood pressure and signs of damage to another organ system, often the kidneys. Preeclampsia usually begins after 20 weeks of pregnancy and can lead to serious, even fatal complications. Many of the signs are silent while some symptoms resemble "normal" effects of pregnancy. Current immunodiagnostic and ultrasound methods are not sensitive or specific enough for the early prediction, detection and distinction between the different subtypes of preeclampsia and HELLP syndrome. HELLP syndrome (Haemolysis, Elevated Liver enzymes and Low Platelets) is thought to be a variant of preeclampsia.

Genomic and proteomic screening and analysis of maternal blood revealed 12 primary biomarkers and a number of secondary biomarkers (15), but a commercial diagnostic has yet to be developed.

The global incidence of preeclampsia has been estimated at 5-14% of all pregnancies. In developing nations, the incidence of the disease is reported to be 4-18%, with hypertensive disorders being the second most common obstetric cause of stillbirths and early neonatal deaths in these countries. Preeclampsia and HELLP syndrome cause approximately \$7-10 billion in healthcare costs in the US annually. Currently there is NO diagnostic approved for preeclampsia in the US.

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