SR-BI as a Predictor of Human Female Infertility and Responsiveness to Treatment

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Technology description

Unmet Need:

Approximately 48.5 million couples are infertile worldwide. Approximately 15% of couples in the United States are involuntarily infertile. Professional intervention can help about 40% of these couples achieve a pregnant state. A causative factor for the infertility relating to the woman is found in no more than one-half of couples that are evaluated. A complete list of the causes of female infertility is extensive. The following problems that are found most frequently in women include anovulation, tubal or uterine disease, and abnormalities of the cervical mucus. Other possible causes include systemic illnesses, marital and sexual difficulties, and lack of knowledge about reproductive functioning. Ideally, each couple seeking a diagnostic evaluation would be able to go together to an infertility clinic where a gynecologist, an andrologist, a reproductive endocrinologist and perhaps an immunologist and geneticist form an infertility team that uses the latest diagnostic tools and offers treatments unknown just a few years ago. Unfortunately, these advantages are available only in major urban areas or at centers associated with university medical schools.

Technology Overview:

JHU inventors have developed a method of prognosticating low progesterone levels and/or poor fetal viability during pregnancy in a female subject, comprising the step of screening a biological sample from the subject for the presence of a single nucleotide polymorphism (SNP) in the SR-BI gene, wherein the presence of the SNP indicates an elevated risk of low progesterone levels and/or poor fetal viability in the subject. In particular, the presence of SNP rs4238001 is considered to be correlated with low progesterone levels and/or poor fetal viability. JHU inventors also developed a method for determining whether a human female subject is at increased risk for having or developing low fertility, infertility or decreased fetal viability during pregnancy comprising the step of screening a biological sample from the human subject for the presence of a SNP in the SR-BI gene, wherein the presence of the SNP indicates that the subject is at increased risk of low fertility, infertility or decreased fetal viability.

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Institution

Johns Hopkins University

Inventors

Annabelle Rodriguez
Medicine SOM