

# Genetic Fertility Panel

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The Virtus Diagnostics Genetic Fertility Panel has been designed to investigate genes, in both males and females, which are specifically associated with difficulties in conceiving or maintaining a pregnancy.

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## What does the Genetic Fertility Panel test for?

The genes that we test for in the Genetic Fertility Panel are all related to you and your partner's ability to get pregnant, or successfully carry a child to full term.

## Females and males

### Cystic Fibrosis

Cystic Fibrosis (CF) is an inherited genetic disorder that affects the respiratory and digestive system, sweat glands and male fertility from infancy through to adulthood.

The gene involved in CF regulates the production of a protein in cells that controls the movement of salt in and out of cells. CF causes the formation of thick mucus that traps bacteria, resulting in infections that damage both the lungs and the gut.

### STAG3

This gene is important in allowing chromosomes to separate correctly during the formation of the egg and sperm. Abnormalities in this gene have been identified in patients with a lower ovarian reserve for their age.

## Females

### MTHFR

This gene is important in processing of folic acid. Folic acid plays a major role in the prevention of neural tube defects. One specific variant causes hyperhomocystinaemia - elevated levels of homocysteine. This condition is typically managed with vitamin B6, vitamin B9 and vitamin B12 supplementation.

### Prothrombin and Factor V Leiden

These genes are involved in the clotting pathway in the blood and variants in each of these genes can be associated with recurrent pregnancy loss.

### FSH receptor

Patients can respond differently to ovarian stimulation with Follicle Stimulating Hormone (FSH) in IVF cycles and there is a variant in this gene that can predict an adverse response which is particularly helpful in preparing for fertility treatment.

## Males

### AZF

This is a group of genes that control sperm production. If one or more of these genes are absent, sperm production may be very low or absent which will guide fertility treatment.

### Haemochromatosis

Haemochromatosis is a very common genetic disorder (1/200 affected individuals in the population) involving excess iron storage in the body with clinical symptoms appearing only between 30-50 years of age. In males, affected individuals can have poor sperm motility and/or altered hormone levels.

### Who should be tested?

Anyone who is experiencing pregnancy delay, or has had more than one miscarriage may benefit from this test. It is more beneficial when both partners are tested.

