

## **IGENE LABORATORY ANNOUNCES THE LAUNCH OF SOUTH EAST ASIA'S FIRST NON-INVASIVE PRENATAL TEST FOR FETAL RhD STATUS**

**SINGAPORE 11 JUNE 2020** – Singapore's iGene Laboratory, a wholly-owned subsidiary of INEX Innovate Pte Ltd, has successfully launched Rhene, a non-invasive prenatal test (NIPT) which assesses fetal RhD status from a maternal blood sample. The launch further cements iGene Laboratory's position towards delivering precision healthcare for Asian women.

### What is RhD and why is it important?

We inherit one of four different blood types (A, B, O and AB) from our parents. These blood types are further categorised based on our Rhesus factor (RhD). If the RhD antigen, a protein, is present on the surface of our red blood cells, our blood type would be RhD positive. Similarly, if the RhD antigen is absent, we would be RhD negative.

According to Red Cross Singapore, most of our population are RhD positive, whereas less than 1% are RhD negative.

Special attention and care are needed during pregnancy when an RhD negative mother is carrying an RhD positive baby. During pregnancy, there is a chance of smaller amounts of the baby's blood entering the mother's bloodstream. In such circumstances, due to blood type incompatibility, an immune response within the mother is triggered to produce anti-D antibodies against the RhD positive blood cells. Such a response is termed as "sensitising event".

Such an event, usually does not affect the first pregnancy in RhD negative women. However, a subsequent pregnancy with an RhD positive baby will trigger a greater immune response, thus producing many more antibodies. The influx of these antibodies may enter the placenta and proceed to destroy the baby's blood cells. This results in a condition called "Haemolytic Disease of the Newborn" (HDN) which can lead to jaundice, severe anemia or brain damage in the baby.

To reduce the impact of such immune response, routine antenatal anti-D prophylaxis injection is administered at 28<sup>th</sup> week of pregnancy to all RhD negative pregnant mothers, regardless of the RhD status of the baby.

Anti-D injections are derived from a blood component known as plasma. Blood donor plasma is screened for infections and viruses though there might be a slight risk of transferring missed infections through the injection.

### What does Rhene test?

Usually, a baby's RhD status is unknown until after it is born. With a simple blood draw, Rhene will be able to analyse short genetic fragments (DNA) from the baby circulating in the mother's bloodstream. The RhD status is then determined by multiplying and evaluating these

DNA fragments using a qPCR machine. As a result, clinicians and their patients are informed of the baby's RhD fetal status before it is born. This in turn will help identify the ideal candidate for anti-D prophylaxis injection rather than a one-off blanket approach.

iGene Laboratory Director Dr Sherry Ho said, "With the availability of Rhene, 4 out 10 RhD negative women will avoid unnecessary exposure to anti-D prophylaxis injection. Not only is the test non-invasive, it is also cost-saving compared to the current practice."

Rhene is based on recommendations by the 2016 UK National Institute for Health and Care Excellence (NICE) on the use of NIPT to access fetal RhD status. Countries like the UK and Australia have implemented NIPT fetal RhD testing into their clinical practice hence providing patients with options.

For more information visit: [www.inex.sg](http://www.inex.sg)

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