

# RIC Information for Clinicians



IMMUNO CONCEPTS IN INFERTILITY



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## 1. Pregnancy and the immune system

From implantation of the fertilised egg to the delivery of a healthy baby, the maternal immune system has a major impact on the development of the foetus and its survival in the immunologically hostile maternal environment. For successful pregnancy, the mother's immune system has to tolerate the immunologically foreign foetus.

The inability of a healthy woman to get pregnant or suffer recurrent miscarriage has a number of causes. These include chromosomal/genetic abnormalities, uterine problems and endometrial infection amongst others. When these have been excluded, exaggerated maternal immune activity is considered of prime importance. This may involve either the antibody and coagulation system in cases of the anti-phospholipid antibody syndrome or NK and T cells when the cellular immune system is overly active. Checking for increased or abnormal activity of these cells and the exclusion of autoimmunity allows timely pharmacological intervention that is critical for reproductive success.

## 2. What is Reproductive Immunology Centre?

The Reproductive Immunology Centre (RIC) is based in Croydon and offers a comprehensive laboratory assessment of NK and T cell function as well as other immunological parameters in women with unexplained infertility.

RIC is well established and is one of only three laboratories in the world that provides in depth analysis of the immune system in the field of infertility. Our services are used by many fertility specialists around the country as well as several other laboratories lacking our expertise.

An extremely important characteristic of RIC is our programme of on going research. This builds on many years of earlier work that has been published in several peer reviewed journals and which supports the benefit that our tests offer the clinician in the investigation of unexplained infertility. A list of the reports published by RIC personnel can be seen at our website. We are currently investigating the importance of Th17 and T regulatory cells in infertility and recurrent miscarriage. If you are interested in collaborating with us, please contact us.

### 3. What tests do RIC offer?

We have a wide repertoire of tests which includes:

NK cytotoxicity

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Assessment of the suppressive effect of steroid, IVIg and intralipid on NK cell killing

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NK CD69 assay

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Th1/Th2 cytokine assay

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Anti Nuclear Antibody

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Anti Thyroid Antibodies

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Anti Cardiolipin Antibodies (both IgG and IgM)

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Lymphocyte subsets

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Factor V Leiden Mutation

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Prothrombin Gene Mutation

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We are also working on the development of a test to enumerate Th17 cells and T regulatory cells.

### 4. How do I access the service?

RIC is able to provide a London location for phlebotomy if needed, as well as couriers to get the sample to us. Results are faxed back within 2 days for NK and T cell based assays.

We aim to offer the easiest service for you and your patients. For more information and contact details, plus a map of the phlebotomy site please see on our website.

### 5. Sample Requirements:

NK cytotoxicity

2 x 6 mL Lithium Heparin samples

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NK suppression test

2 x 6mL Lithium Heparin samples

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NK CD69 assay

1 x 6mL Lithium Heparin sample

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Th1/Th2 cytokine assay

1 x 6mL Lithium Heparin sample

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The above assays need to arrive in the laboratory **within 8 hours of collection** and have been kept at **room temperature**.

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Anti Nuclear Antibodies

1 x Clotted sample

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Anti Thyroid Antibodies

1 x Clotted sample

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Anti Cardiolipin Antibodies

1 x Clotted sample

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Factor V Leiden Mutation

1 x EDTA sample

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Prothrombin Gene Mutation

1 x EDTA sample

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Lymphocyte Subsets

1 x EDTA sample

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Samples need to be clearly labelled with the **patient's name, date of birth** and another identifier such as a **hospital number**. The **date** and **time** of sample collection should also be clearly indicated. All samples should be accompanied by a **fully completed form** that has the patient details and the name and address of the requesting clinician. If the results are to be faxed, a fax number must be provided.

## 6. How do I get the results?

We can email results and provide hard copies by post.

## 7. How much do these tests cost?

The price of the NK cell test and other reproductive immunology tests can be obtained from the RIC website.

Unfortunately infertility treatment is almost never covered by private insurance and RIC is not aware of any of the leading UK private insurance companies supporting the cost of the tests or of the subsequent treatment.

## 8. Do you give guidance on the interpretation of the test?

It is important that a clinician familiar with the tests should interpret the results. An interpretation sheet can be provided along with the result. This can also be found on our website.

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