

Theranostics Lab provides a specialised service for the delivery of molecular diagnostics to clinicians and the public.

A core philosophy of the company is to improve public health through effective screening programmes and improve sustainability in medicine by matching the right treatment to the right individual.

We also support a strong social responsibility programme.

Theranostics<sup>LAB</sup>. Your Genes. Your Health.

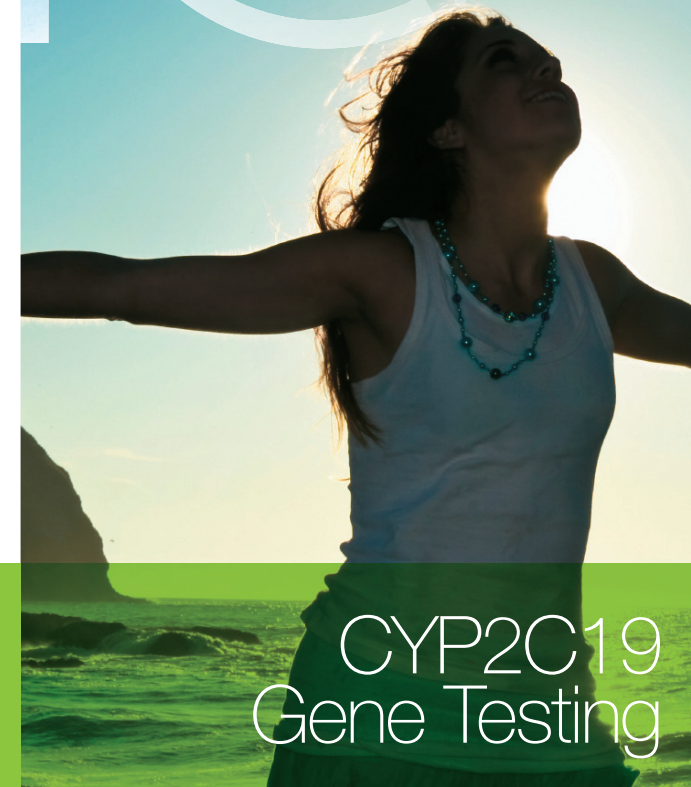
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Your Genes. Your Health.



CYP2C19  
Gene Testing

Theranostics<sup>LAB</sup>.



## Personalised Medicine

Personalised medicine is a holistic approach to medicine, and uses molecular diagnostic tools, in combination with advanced informatics, eg using a person's age, gender, weight etc, to individualise a treatment strategy.

The aim is to make medicine more predictive, preventive, personalised and participatory – in short, P4 medicine.

This is a philosophy change to current practice and will lead to improved patient care and reduced costs by reducing wastage and treatment injury.

Pharmacogenomics, proteomics, metabolomics and nanomedicine are emerging fields of science which sit within the framework of personalised medicine.

Theranostics Lab will translate relevant discoveries from each of these areas into tools that assist in patient care.

## Ordering a Test

### Specimen Requirements

**4ml EDTA sample**

### Storage Conditions

**4°C**

### Transport Conditions (if off site)

**Keep cooled**

### Documentation

**Provide a request form with patient and clinical details. Requestor information is required for reporting and invoicing.**

### Availability

**The test will be available weekdays with an expected turnaround of 48 hours. In most circumstances, the analysis will occur the same day of arrival.**

### Reporting

**The report will be available or sent electronically. In the event of HL7 not being available, a paper report will be issued.**

## Interpreting the Result

Clopidogrel (Plavix) is an antiplatelet drug used in people who have had coronary stenting or a heart attack. Clopidogrel requires activation in the liver to have an effect. A number of genes are involved with this activation process and individuals with a particular genetic variant (CYP2C19) are unable to convert clopidogrel into its active form.

Fifteen percent of Europeans and twenty-five percent of Maori carry this genetic variant. When treated with clopidogrel they have a increased risk of further myocardial infarction, stent thrombosis and twice the mortality risk compared with those without the variant.<sup>1</sup> This has been consistently confirmed in numerous independent studies.

Research performed in New Zealand has shown that strategies can be undertaken to improve the response to clopidogrel. Either the dose can be increased or alternative treatment can be used.<sup>2,3</sup> Genetically guided treatment is more cost effective in New Zealand than treating all patients with next generation antiplatelet drugs.<sup>4</sup>

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1 Mega JL, Close SL, Wiviott SD, et al. N Engl J Med 2009;360(4):354-62.

2 Gladding P, Webster M, Zeng I et al. J Am Coll Cardiol Intv 2008;1:620-627.

3 Mega JL, Hochholzer W, Frelinger AL et al. JAMA. 2011 Nov 23;306(20):2221-8

4 Panattoni L, Brown PM, Te Ao B et al. Pharmacoeconomics. 2012 Nov 1;30(11):1067-84