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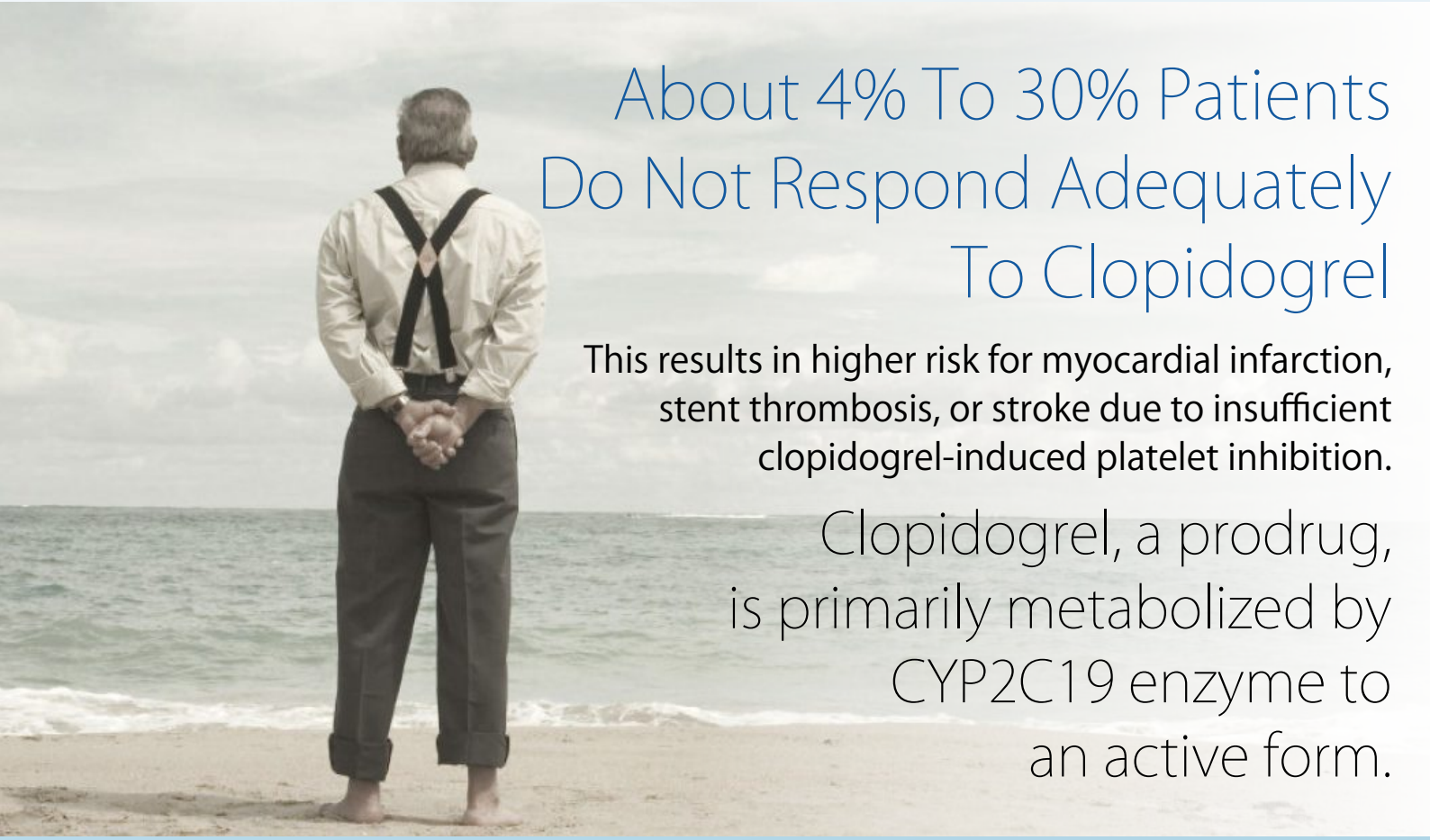
# CYP2C19 GENOTYPING TEST FOR CLOPIDOGREL



## About 4% To 30% Patients Do Not Respond Adequately To Clopidogrel

This results in higher risk for myocardial infarction, stent thrombosis, or stroke due to insufficient clopidogrel-induced platelet inhibition.

## Clopidogrel, a prodrug, is primarily metabolized by CYP2C19 enzyme to an active form.

This gene is responsible for metabolism of many drugs including clopidogrel, voriconazole and proton-pump inhibitors. Variations in this gene are associated with poor response to clopidogrel and increased cardiovascular morbidity and mortality.

Genetic variants of CYP2C19 associated with altered CYP2C19 activity have been identified and are relatively common in most populations.

Individuals with loss of function (LOF) variants of CYP2C19, CYP2C19*2 or CYP2C19*3 (~20 to 60%% of the population carry at least one LOF copy), are at increased risk for thrombotic cardiovascular events due to decreased drug efficacy. In contrast, the fast (ultra-rapid) metabolizing variant CYP2C19*17 (in ~20% to 30% of the population) is associated with increased drug activation and increased risk of bleeding.

The USFDA has recommended to use caution in poor metabolizers before prescribing clopidogrel. Use of alternative anti-platelet therapy or alternative dosing strategy of clopidogrel in CYP2C19 poor metabolizers has also been recommended.

# AyuGen Biosciences Pvt Ltd performs molecular genetic testing to detect presence of common genetic changes (or variations) in cytochrome P450 2C19 (CYP2C19) gene.

## Indications for CYP2C19 polymorphism testing

Testing is recommended in acute coronary syndrome patients who are being considered for clopidogrel based antiplatelet therapy or who are already on this medication.

## Sample requirements and laboratory testing for CYP2C19 genotypes.

The preferred sample is 3ml blood in EDTA tube

Test Result & Turn around time - 5 days

## PATIENT CLASSIFICATION BASED ON CYP2C19 GENOTYPING TEST

| Patient Classification | CYP2C19 Genotypes | Clinical Implication |
|---|---|---|
| Ultra-rapid metabolizer | *1/*17, *17/*17 | Normal Clopidogrel dosing |
| Extensive metabolizer | *1/*1 | |
| Intermediate metabolizer | *1/*2, *1/*3, *2/*17 | Alternative anti-platelet therapy or alternative dosing strategy |
| Poor metabolizer | *2/*2, *2/*3, *3/*3 | |

Reference- SA Scott et al Clinical Pharmacogenetics Implementation Consortium Guidelines for CYP2C19 Genotype and Clopidogrel Therapy: 2013 Update Clinical pharmacology & Therapeutics | VOLUME 94 NUMBER 3 | SEPTEMBER 2013

**Please contact on 020- 2553 8990 or 0942311 8990 for sample collection or further information.**

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