

# Human Pharmacogenomics SNP Detection Kit (Next Generation Sequencing)

## BACKGROUND

Pharmacogenomics is a discipline that studies the relationship between genetic variations and drug responses, with the goal of improving drug efficacy and safety. It investigates the genetic characteristics that affect individual differences in drug absorption, distribution, metabolism, and elimination, as well as the different responses to drugs caused by genetic variations in different patients. By doing so, it provides a platform for developing new drugs, guiding rational drug use, enhancing drug effectiveness, reducing adverse drug reactions, lowering the overall cost of drug development, and ultimately improving the quality of disease treatment.

Differences in drug-metabolizing enzymes and drug target genotype can affect the drug's in vivo concentration and the sensitivity of targeted tissues to the drug, resulting in individual differences in drug responsiveness (including therapeutic and adverse reactions).

This test kit detects 65 SNP loci of 21 pharmacogenomic-related genes, which can guide patients with specific genotypes to select appropriate drugs and dosages, achieve personalized medication, and improve the effectiveness and safety of drug therapy, thereby preventing the occurrence of serious adverse drug reactions.

## DETECTED GENES

| Gene   | rs ID      | Gene       | rs ID      | Gene      | rs ID      | Gene       | rs ID      | Gene       | rs ID       |
|--------|------------|------------|------------|-----------|------------|------------|------------|------------|-------------|
| MTHFR  | rs1801131  | HLA-A*3101 | rs1061235  |           | rs56337013 |            | rs35694136 |            | rs35742686  |
|        | rs1801133  | HLA-B      | rs3909184  |           | rs12248560 |            | CYP1A2     |            | rs2069526   |
| DPYD   | rs1801268  |            |            | rs2395029 | CYP2C19    | rs28399504 |            | rs762551   | rs28371706  |
|        | rs1801267  | CYP3A5     | rs41303343 |           | rs72552267 | VKORC1     | rs9923231  | rs5030862  |             |
|        | rs3918290  |            | rs28383479 |           | rs4986893  |            | rs34223104 | rs76723693 |             |
|        | rs1801266  |            | rs10264272 | NAT2      | rs1801279  | CYP2B6     | rs28399499 | G6PD       | rs137852328 |
|        | rs1801265  |            | rs776746   |           | rs1801280  |            | rs3211371  |            | rs5030872   |
| F5     | rs6025     |            | rs28383468 |           | rs1799930  | APOE       | rs429358   |            | rs1050829   |
| UGT1A1 | rs4148323  | rs56379106 | rs1799931  | rs7412    | rs1050828  |            |            |            |             |
| TPMT   | rs1142345  | NAT1       | rs4986782  | CYP2C9    | rs1799853  | COMT       | rs4680     |            |             |
|        | rs1800584  |            | rs56172717 |           | rs28371685 | CYP2D6     | rs1135840  |            |             |
|        | rs1800460  | CYP2C19    | rs6413438  | F2        | rs1799963  |            | rs59421388 |            |             |
|        | rs12201199 |            | rs4244285  | SLCO1B1   | rs4149056  |            | rs28371725 |            |             |
|        | rs1800462  |            | rs72558186 | CYP1A2    | rs2069514  |            | rs16947    |            |             |

## PRODUCT INFORMATION

| Product Name                             | Core Technology | Pack Size                    | Instruments Validated            | Sample Type      |
|------------------------------------------|-----------------|------------------------------|----------------------------------|------------------|
| Human Pharmacogenomics SNP Detection Kit | RingCap®        | 16 Tests/Kit<br>32 Tests/Kit | IonTorrent<br>Illumina<br>MGISEQ | Peripheral blood |

## DETECTION SIGNIFICANCE

- »» Guide clinical practice to select appropriate medications and dosages tailored to specific patients, achieving personalized drug therapy;
- »» Enhance the efficacy and safety of drug therapy and prevent the occurrence of serious adverse drug reactions.

## ELIGIBLE POPULATION

- »» Patients requiring long-term or lifelong drug therapy, such as cardiovascular drugs, antipsychotic drugs, gastrointestinal drugs, etc.
- »» Individuals with a history of serious adverse drug reactions or a family member with such a history.
- »» Patients receiving multiple drug therapies simultaneously.
- »» Patients whose use of a certain drug has not achieved the desired clinical outcome, and whose disease control is unstable.

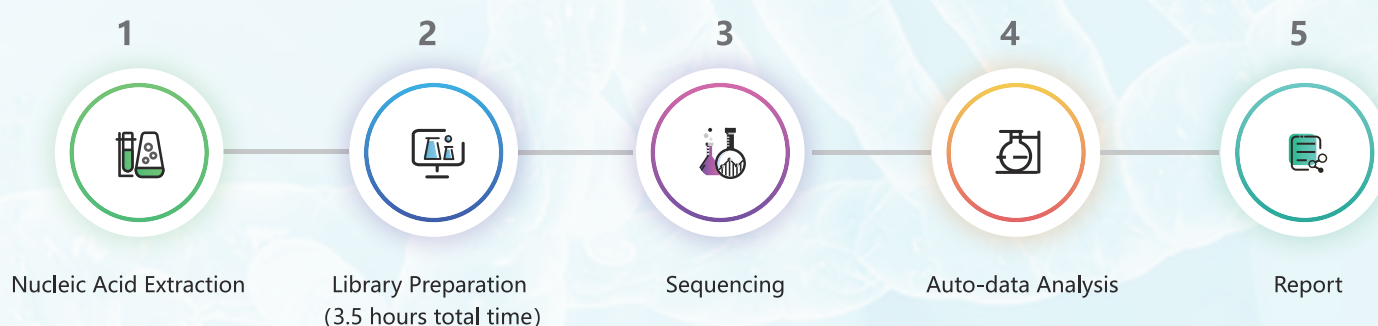
## FEATURES & ADVANTAGES

**Ease of Use:** Based on the independent patent technology RingCap®, Library preparation in 2 steps.

**Fast Results:** The library preparation takes only 3.5 hours.

**Comprehensive Testing:** The simultaneous detection of 21 target genes and 65 loci provides comprehensive guidance for clinicians to select appropriate drugs and dosage for individualized treatment of specific patients.

## DETECTION PROCESS



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