

Facts:

What are Gene-Pack tubes?

- Gene pack tubes are lyophilized PCR– Mastermixes for a variety of fields:
- All components like
 - heat-sensitive Taq DNA Polymerase
 - dNTP's
 - MgCl₂
 - Blue tracking dye
 - Stabilisers

are included in the Kit. A special dilution solution is provided with the kit.

What is the field of interest?

Bioron offers the Gene-Pack tubes for:

- PCR-Diagnostic Kits for 75 different Infection diseases
- Cancer related mutation detection
- Mutation assays for pharmacogenetic studies



Alternative Solutions

Gene Pack DNA tubes

Mutations assays for
pharmacogenetics

study

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Medicine incompatibility Test

Mutations assays for pharmacogenetics study

CYP2D6, CYP2C9, CYP2C19, CYP1A1, CYP2E1, NAT2, DPD allelic variants detection

Introduction

Analysis of allelic variants in genes coding for xenobiotic metabolizing enzymes was recognized as a valuable tool in determination of possible toxic reaction of the patient to the particular medicine and in the individual selection of the correct drug for the optimal treatment. The most popular analysis has to do with the detection of the allelic variants for several CYP genes as well as for the detection of polymorphisms of genes coding for II-phase metabolizing enzymes.

The analysis is highly recommended before chemotherapy in cancer (DPD, CYP, NAT variants analysis), before anti-depression drugs selection (CYP, NAT variants analysis), before beta-blockers prescriptions for patients with cardiovascular diseases.

Benefits

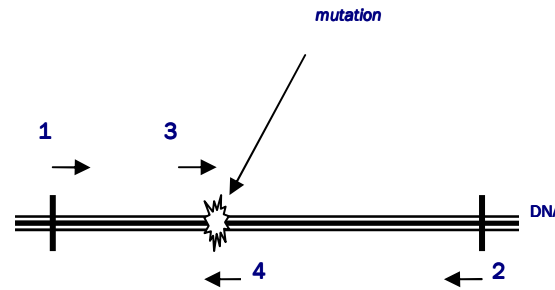
improve the chance that the medicine will help

lower the chance of severe side effects from the medicine

improve the patients safety.

The genes tested today may be important for medicines that your patients will need in future

Storage at room temperature



Primers 1 and 2 provide the synthesis of fragment A:



Primers 2 and 3 (mutation-specific) provide the synthesis of fragment B:



Primers 1 and 4 (wild-type specific) provide the synthesis of fragment C:



Figure 1.

The kit is designed for the convenient and simple usage, storage and transportation. Each kit contains 100 tubes with lyophilised Master Mix with the following components:

Principle of mutation detection

Each kit is designed for the detection of one specific mutation. The mutation detection is based on tetra primer allele-specific PCR. Flanking primers provide amplification of a region around possible mutation in all cases. Internal primers can discriminate mutation allele and wild-type allele by the corresponding amplicon size (Fig 1):

- Taq DNA polymerase plus heat-sensitive Taq DNA inhibitors
- 4 primers for allele-specific PCR
- dNTP's
- special salts and stabilizers
- loading dye (bromphenol blue)
- Separate Tube of dilution buffer

The Master-Mix can be transported and stored at ambient temperature at least for 1 Year without any change in performance of mutation detection.

To start PCR one have to add genomic DNA, dilution buffer and water. After PCR the product will be loaded on the Agarose gel (no need for loading dye).

The size of the fragments will indicate the presence or absence of the mutation in the sample studied.

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