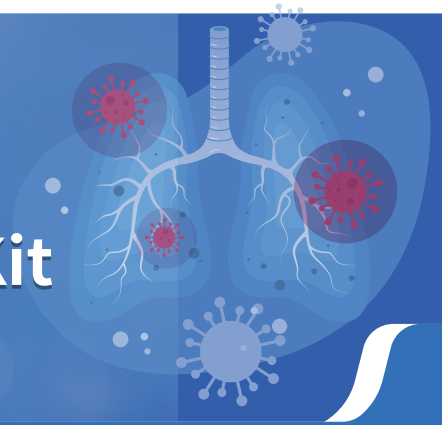


Mycobacterium Tuberculosis Isoniazid Resistance Detection Kit

(PCR-Melting Curve Method)



A Powerful Tool for Rapid Diagnosis of Isoniazid-Resistant Tuberculosis

This kit is designed to rapidly detect gene mutations of *katG*, *inhA*, *fabG1* and *ahpC* associated with isoniazid resistance in *Mycobacterium tuberculosis* complex, addressing the challenges of long detection cycle, low diagnosis rate and the difficulty in culturing strains that are commonly encountered in isoniazid resistance detection.

01

Rapid

Use sputum as the sample; the whole workflow only takes 2.5 hours.

02

Sensitive

The LOD is 800 bacteria/ml; samples with 30% mutated strains can be detected.

03

Comprehensive

6 reported drug-resistant loci can be detected using two tubes.

04

Convenient

Automated nucleic acid extraction is allowed; results are automatically interpreted.

● Background

Isoniazid (INH) is one of the most important first-line medicines for the treatment of tuberculosis (TB). The emergence of TB strains resistant to isoniazid threaten to reduce the effectiveness of TB treatment. Traditional methods for detecting isoniazid-resistant TB (INH-TB) are time-consuming, with low accuracy, and difficult in culturing strains, which often results in overmedication, potentially worsening drug resistance. Therefore, developing a rapid, accurate, and sensitive method for INH-TB detection is essential for the choice of an appropriate treatment strategy.

● Principles

This kit is designed based on PCR-melting curve technology. During the PCR cycles, molecular beacon probes hybridize with the amplified single-stranded oligonucleotide sequences. The characteristic peaks of the hybridized fragments will be monitored, allowing for determination of the temperature of melting point (T_m) values. Since the T_m value of the wild-type sequence hybridized with the probe differs from that of the mutated sequence hybridized with the probe, the wild-type and mutated sequences can be distinguished.

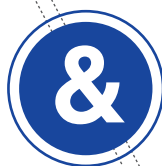
● Test Loci

Detect the mutations at codon 315 of katG gene, codon 94 of inhA gene, codon 203 of fabG1 gene, ahpC promoter (positions -44 to -30 and -15 to 4), and inhA promoter (positions -34 to -8) in Mycobacterium tuberculosis complex.

● Applications

Rapid detection of isoniazid-resistant tuberculosis

For suspected tuberculosis patients



Precise treatment of isoniazid-resistant tuberculosis

For diagnosed tuberculosis patients (positive for smear/culture/nucleic acid tests)



Early diagnosis

Conduct etiological screening for patients suspected of having isoniazid-resistant tuberculosis, and make a timely identification and diagnosis to reduce the spread of drug-resistant tuberculosis.

Precise treatment

Administer precise medications to INH-TB patients or make timely adjustments to their treatment regimens, effectively avoiding the abuse of anti-tuberculosis drugs.

Patient benefits

Shorten the tuberculosis treatment cycle, reduce the mortality rate, and lower medical costs.

Epidemiological investigation

Analyze the causes of isoniazid resistance, and conduct analysis and intervention on the transmission routes of INH-TB.

CapitalBiotech

Add: 88 Kechuang 6th Street, Building C, Yizhuang Biomedical Park, Beijing Economic-Technological Development Area, Beijing 101111, China
www.capitalbiotechnology.com Tel: +86-10-69002900 E-Mail: globalsales@capitalbiotech.com