

Rapid Identification Kit for B.1.1.7 Lineage and B.1.351 Lineage of SARS-CoV-2 (Fluorescence RT-PCR)

For Research Use Only. Not for use in diagnostic procedures.



Product Description

The kit is a qualitative in vitro nucleic acid amplification assay to identify B.1.1.7 lineage and B.1.351 lineage of SARS-CoV-2 in oropharyngeal swab specimen or sputum confirmed positive SARS-CoV-2 by RT-PCR. Multiple new SARS-CoV-2 variants have emerged in the late of 2020, most notably, 20B/501Y.V1 or B.1.1.7 lineage, and 20C/501Y.V2 or B.1.351 lineage. Both lineages have mutations in the receptor binding domain (RBD) of the spike protein at position 501, where amino acid asparagine (N) has been replaced with tyrosine (Y), N501Y, leading to a tight interaction of RBD with human receptor ACE2. Other mutations include P681H and HV69-70del of B.1.1.7 lineage, both probably associated with increased transmissibility, and K417N of B.1.351 lineage, also a RBD mutation, which also increased the affinity of virus with human receptor.

Features

- Bundle with BGI EUA RT-PCR kit for detecting SARS-CoV-2, B.1.1.7 and B.1.351 lineage mutations
- Allele refractory mutation system (ARMS)-based quantitative PCR
- Identify spike protein mutations: N501Y, P681H, K417N, HV69-70del
- Human β -actin as an internal control
- Two reactions for each specimen in a single run to identify four spike protein mutations
- Stringent QC with positive and blank controls

Benefits

- Highly compatible - Bundled kits require very similar lab settings and procedure
- Highly sensitive – Superior limit of detection for oropharyngeal swabs or sputum
- Fast TAT – Sample to result in 2.8 hours with automated sample preparation system (1 hour for detecting mutations by RT-PCR)
- High-throughput – Ramp up labs for large-scale, community-based testing
- Ease of use – All-inclusive with pre-mixed reaction reagents
- Easy interpretation – Analysis of each allele with well-defined controls

Specifications

No of reactions per kit	50
Acceptable samples	Oropharyngeal swabs and sputum
Acceptable real-time PCR machines	– Applied Biosystems™ 7500 Fast Real-Time PCR System – Applied Biosystems™ QuantStudio 5 Real-Time PCR System – Roche LightCycler® 480 Real time PCR System
Acceptable viral RNA extraction kits	– MGIEasy Nucleic Acid Extraction Kit, 96 or 1728 preps – QIAamp Viral RNA Mini Kit, 50 or 250 preps
Automation (Optional)	– MGISP-960RS Automated Sample Preparation System – MGISP-100 Automated Preparation System
Reagent stability	Under dark for 9 months at -15°C or below



Key Components

Contents (50 tests/kit)	Volume	Quantity	Description
Reaction Mix for Wild Strain	1 mL/vial	1 vial	Reagent with primers and probe for amplification of wild strain and internal reference
Reaction Mix for Mutant Strain	1 mL/vial	1 vial	Reagent with primers and probe for amplification of mutant strain
Enzyme Mix	160 µL/vial	1 vial	Taq polymerase, reverse transcriptase, and UDG
Positive Control	750 µL/vial	1 vial	Mixed solution of recombinant pseudo-viruses with target genes of wild strain, mutant strain and internal reference
Blank Control	750 µL/vial	1 vial	DNase/RNase free water

Global Offices

BGI Americas

One Broadway, 14th Floor
Cambridge, MA 02142,
USA
Tel:+1 617 500-2741

BGI Europe

Ole Maaløes Vej 3,
DK-2200 Copenhagen N,
Denmark
Tel:+45 7026 0806

BGI Asia

16 Dai Fu Street,
Tai Po Industrial Estate,
New Territories, Hong Kong
Tel:+852 36103510

BGI Australia

L6, CBCRC, 300 Herston
Road, Herston, Brisbane,
Queensland 4006, Australia
Tel: +61 (07) 3362 0475

Contact us for more information

Contact your BGI account representative for more information including product pricing.

bgi-discover@bgi.com

<https://www.bgi.com/us/sars-cov-2-variant-detection/>

Copyright ©2021 BGI. The BGI logo is a trademark of BGI. All rights reserved.

All brand and product names are trademarks or registered trademarks of their respective holders. Information, descriptions and specifications in this publication are subject to change without notice. Published March 2021.



BGI Genomics