

# PRIME VarDetectNGS™ RAPID VARIANT DETECTION NGS TEST



## PRODUCT BROCHURE

### Molecular Rapid Variant Detection NGS test for the detection of SARS-CoV-2 Variants

Prime VarDetectNGS™ sequences the entire genome of SARS-CoV-2 and can detect all known Variants of Concern of COVID including Alpha, Beta, Gamma, Delta and Mu and other Variants of Interest like Lambda, Eta etc.

Prime VarDetectNGS™ can also detect novel mutations in the SARS-CoV-2 genome with single nucleotide sensitivity including SNPs, Insertions and Deletions.

Prime VarDetectNGS™ test is validated with clinical samples and has been cross validated with TaqMan and Prime VarDetect assay.

## PRODUCT DESCRIPTION

Prime VarDetectNGS™ Rapid Variant Detection Test sequences the entire genome of SARS-CoV-2 and detects all known SARS-CoV-2 Variants including Alpha, Beta, Gamma, Delta, and Mu with high sensitivity and specificity.



### OVERVIEW

- Samples are sequenced in Prime laboratory by technicians who are skilled in NGS
- Very high sensitivity and specificity in detecting known and novel SARS-CoV-2 Variants
- Rapid 10 hour sample prep + 7 hour sequencing assays
- Our software outputs all mutations seen in the sample along with quality metrics
- We report variants seen in the sample along with PANGO and WHO and GISAID clade labels

#### DECREASED RUN TIME

- Prime VarDetectNGS™ uses a rapid sample preparation protocol.
- Run on Illumina sequencers with rapid flow cell reducing sequencing time to <7 hours.

#### HIGH ACCURACY

- Validated with clinical samples and has been shown to have very high accuracy and can detect mutations in the full genome at single nucleotide sensitivity.

#### SMALL BATCH SIZES

- Our sequencing runs can run in small batch sizes of <25 samples.
- Labs can send small batches of samples on a weekly basis instead of waiting for large batch sizes for results faster.

#### INCREASES REVENUE

- Prime VarDetectNGS™ increases Lab revenue with reflex testing of positive samples for variant reporting purposes.

## NGS TECHNOLOGY

Prime VarDetectNGS™ utilizes Illumina CovidSeq protocol, which is based on the ARCTIC protocol. This protocol has been validated around the world and is the most widely used protocol for full genome sequencing for SARS-CoV-2. Our technicians are Illumina trained for NGS sample preparation and sequencing and can provide high quality data with high confidence.

### 1. WORKFLOW

- Samples arriving in our lab are extracted and tested for RNA and cDNA quality.
- Samples passing quality control are amplified using ARCTIC protocol for full genome sequencing.
- The processed samples are barcoded and multiplexed and processed in Illumina flow cells in Illumina sequencers.
- The sequences generated are demultiplexed into individual samples and processed with Prime VarDetectNGS sequence analysis software.
- The output mutations list and variant detection results are shared with the customer through secure cloud sharing.

### 2. FULL AUTOMATION

- Custom APIs can upload to AWS cloud and automated pipelines will generate output report files.

### 3. RAPID

- Can process millions of reads in under 3 minutes which can take competitors several hours.

### 4. STRAIN LEVEL SENSITIVITY

- Custom microbe identification methods can differentiate to strain level for diagnostic applications.

### 5. DENOVO GENE ASSEMBLY

- Can identify novel microbes and perform genome contig creation and assembly for novel genomes.

### 6. NON-TARGETED ID

- Customized to target microbial genomes (lower cost and higher throughput) or run non-targeted identification for unknown pathogens.

### 7. POOLING SAMPLES

- Custom multiplexing methods and barcoding can pool hundreds of samples per sequencing run. Enables high volume sequencing with

## PRODUCT PORTFOLIO AND FEATURES

### 1. PRODUCT OFFERINGS

- **Prime CovidDetect™**  
Highly accurate, extractionless rapid RT-LAMP COVID screening assay, which requires <30 min from sample to result.
- **Prime STIDetect™**  
LAMP and PCR based detection assay for STIs (Herpes, Hepatitis B/C, Chlamydia, Gonorrhea, *Candida Albicans*, Trichomonas, Syphilis, Ureaplasma etc.).
- **Prime VarDetect™**  
Highly accurate, rapid PCR assay for detection of Covid Variants including: Alpha, Beta, Gamma, Delta, and Mu.
- **Prime RespDetect™**  
LAMP and PCR based detection assay for respiratory infections including Influenza A/B, RSV A/B, etc.

### 2. PRIME'S ADVANTAGES

#### High Innovation:

- Highly innovative Rapid LAMP and PCR assays for multiple microbes.
- Our team works with you to design and develop novel assays within 3-4 weeks.

#### Customization:

- Highly reliable assays that can be customized to your lab workflows.
- Our specialists work with your team during the entire process for successful execution of the assays.

### 3. PARTNERSHIPS

- Partners with academic institutions including NYU, UPenn and University of Alaska.
- Test kits have been validated in multiple labs in NY, CA, New Orleans, NC and PA.
- Partners with multiple labs including Summer Bio, VeroDx, HookDx, Unilab, Biolabs, SepsisMD and DNA Healthcare Solutions.

### 4. US SUPPLY CHAIN

- Partners with US ISO certified CMOs and has multiple reagent suppliers for its reagents.
- Can accommodate turnaround time of less than two weeks.
- One day shipping is available in US based on reagent availability.
- Bulk reagent supply ready to order.