

## Advantages of Prime PCR System™

### PrimeStore®

- Collection / Transport Solution
  - Inactivates / kills and lyses *M. tuberculosis* and other microbes
  - Destroys nucleases (RNase/DNase)
  - Compatible with multiple extraction systems including high through put
  - Preserves DNA/RNA integrity
  - Facilitates DNA/RNA extraction and purification
  - Safe, easy transport and shipping at ambient temperatures (no cold chain required)
  - Ready for storage

### PrimeMix®

- Highly robust, sensitive and reliable
- Suitable for high through put
- Detection at the point of patient care
- Deployment and field use
- Increased stability
  - Months at 4°C
  - Weeks at room temperature
- Easy to use
  - Safe handling
  - Few pipetting steps
  - Less chance for operator error
  - Decreased opportunity for contamination
- Compatible with essentially all real-time PCR units
  - ABI 7500/7000
  - Idaho Technologies RAPID, JBAIDS
  - Roche Lightcycler

## PrimeMix® Utilization

- Exceptional PCR assay system for hospital and regional laboratory (suitable for high through put)
- Ideal for patient point of care PCR microbial detection
- Suitable for field deployment and outbreak surveillance
- Useful for triage, isolation and containment decisions
- Could deliver real-time antimicrobial resistance data
- Helpful for patient treatment and contact prophylaxis and limiting costly tests
- *M. tuberculosis* treatment and containment
- *M. tuberculosis* surveillance and tracking
- Pandemic and outbreak management



### Laredo, Texas: Field Deployment Exercise Screening for H5 influenza

- Ambient air temperature = 99°F
- Wind conditions (12-15 mph SW)
- The R.A.P.I.D. instrument (110-120 volts) was powered by a portable generator.

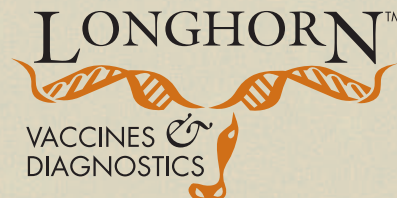
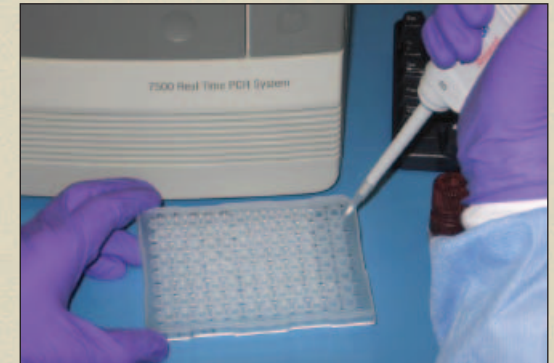
## Rapid TB Detection Prime PCR System™ Collection to Detection

A specimen collection and pathogen detection system for molecular diagnostic testing in central or remote laboratories

Longhorn Diagnostics, a wholly owned subsidiary of PanFlu, LLC, is currently testing and validating a specimen collection system **PrimeStore®** and specific PCR assays **PrimeMix®** capable of rapidly *discriminating*:

- 1 *M. tuberculosis*
- 2 Influenza A and B, H1, H3 and H5
- 3 Other - Malaria, Adenovirus

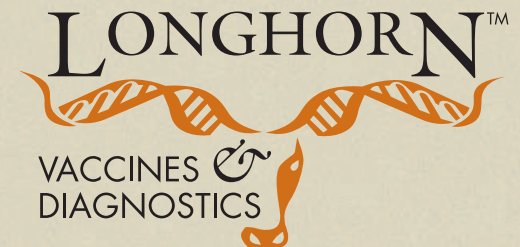
from *uncultured clinical samples* requiring **less than 2 hours total analysis time.**



**+1.210.826.0910**

1747 Citadel Plaza • Suite 206  
San Antonio, TX 78209

info@lhnvd.com



## PrimeStoreMTM™

- Rapid, stabilized and easy to use PCR system for pathogen detection
- Provides flexibility, speed, safety
- Fully reliable
- Stable at ambient temperatures
- M. tuberculosis and other microbes are killed for safe transport and handling

PrimeStore® is a 3-in-1 sample collection solution that lyses, stabilizes and preserves environmental or clinical samples for DNA/RNA analysis.

## Why PrimeMix® for Microbial Detection

- Faster than culture
  - M. tuberculosis 60-90 minutes vs 6-8 weeks
  - Virus <2 hrs vs 3 days
- Significantly better specificity and sensitivity than rapid antigen detection
- Provides more data
  - Microbe-ie influenza
  - Microbe type-ie influenza A or B
  - Microbe subtype-ie H1, H3, H5, H7, H9

This level of information may be important in decisions related to prophylaxis, treatment, isolation, containment and cohorting patients.

## Prime PCR System™

### Step One

#### Place specimen in PrimeStore®

- Inactivation, transport, and DNA/RNA preservation solution
- PrimeStore® is proprietary and superior to current transport media
- Samples are ready for safe transport, shipping, or long term storage

### Step Two

#### Extract DNA/RNA

- PrimeStore® accelerates lysis and DNA/RNA separation, and preserves DNA/RNA integrity
- Enhances DNA/RNA extraction efficiency

### Step Three

#### Pipette PrimeMix® into reaction well

- Pipette DNA/RNA into reaction well
- Begin PCR (other PCR assays require 5 or more pipetting steps that increase opportunities for errors and contamination)

PrimeStore® and PrimeMix® are compatible with multiple platforms for on-site testing and centralized high through put laboratory testing.

## Microbe Detection

- 60 - 90 minutes to microbe detection (DNA/RNA)
- Sensitivity 1-100 copies

## PCR Assays

- Universal M. tuberculosis
- Flu / No Flu
- FluA / FluB
- FluA H1, H3, H5
- H7, H9 and anti-viral resistance (under development)

## Site of Care/Field Use

These assays and required instrumentation can be taken into the field for point of contact analysis / on site assessment:

- rural testing
- naturally occurring infectious disease outbreaks
- bioterrorist attacks
- the battlefield
- border crossings
- airports
- remote areas, etc.