

Multiplex Analysis

Handheld

Real-time data

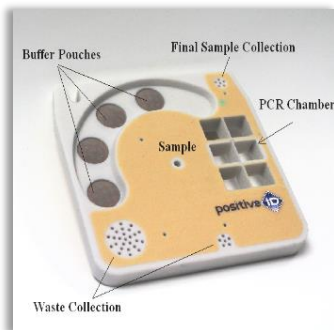
Low Cost

One-button



Firefly Dx

PositiveID Corporation, introduces the Firefly Dx “A lab in the palm of your hand” sensor platform capable of detecting/diagnosing a wide variety of common organisms and foreign animal diseases, as well as novel and emerging biological agents at the point of need. Firefly Dx will provide rapid sample purification, laboratory-grade biological analysis, and wireless communication of test results, all with single-button operation. The system incorporates single-use, disposable cassettes with tracking ID chips, with reagents and waste storage all within the cassette for containment and archive.



Firefly Dx Cartridge

- Sample-in to result-out in less than 15 minutes
- Laboratory-grade results
- All reagents are preloaded and ready to use
- RFID chip contains required protocol – no user programming
- Lyophilized reagents for sustained storage at room temperature
- All waste and sample is contained
- Affordable (target cost of \$1000 per unit and \$5 - \$25 per sample)
- Automated and easy to use
- Small operating footprint



The Firefly Dx cartridge has gone through a series of tests during its development, including running a variety of samples and assays. Environmental sample purification and PCR amplification demonstrated across multiple organisms :

- BWA agents (Ba, Yp, Ft)
- Environmental samples (e. coli)
- Clinical (HPV)
- Antibiotic resistant bacteria (MRSA)

For example, Figure 1 shows the TaqMan® output (read on commercial instrument) from an influenza A target amplified on the Firefly Dx cartridge thermal cycle. Figure 2 shows detection of an *in vitro* transcribed RNA containing a CDC marker for H1N1

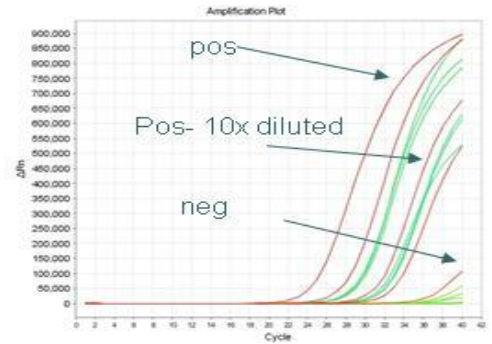


Figure 1

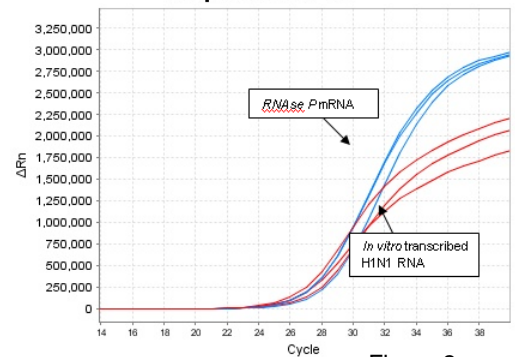


Figure 2

Firefly Dx Applications and Markets

First Responders

- Biothreat agent detection and confirmation (such as Anthrax) from environmental samples and powders
- Rad/Nuc incident true exposure determination of casualties

Agricultural

- Rapid and accurate diagnostics on-site for Foreign Animal Disease outbreaks (i.e. Foot and Mouth Disease Virus)
- Field diagnostic capability for high-consequence invasive crop diseases

Human Clinical (non-infectious disease)

- Radiation exposure biodosimetry panel post-Rad/Nuc incident and for manned space missions (such as the International Space Station)
- Cancer detection and diagnostics panels

Human Infectious Diseases

- Antibiotic resistance detection panels (such as MRSA)
- Seasonal and Pandemic Influenza panels
- Other Emerging and Re-Emerging concerns such as Ebola Virus, Dengue Fever Virus, Chikungunya, Nipah, etc. in resource constrained environments