



LSK Technologies Inc.

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RT-LAMP Testing Expansion

Low-cost Laboratory Nucleic Acid Amplification Platform

PLUM Platform Overview

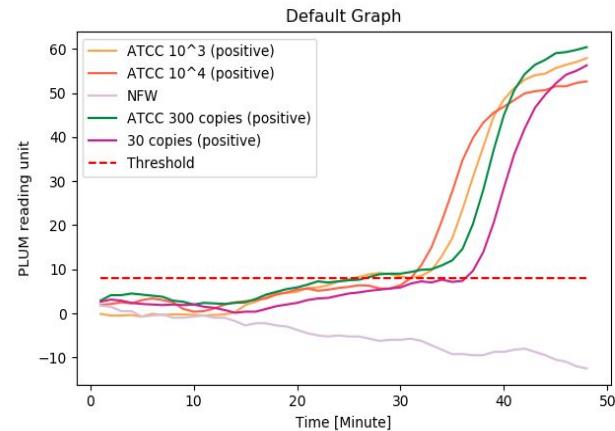
An affordable plate reader that utilizes camera vision to quantify optical reactions.



Portable Device
\$3,500 USD



Room Temperature Stable
All-in-one RT-LAMP Kit
\$500 USD - 96 Reactions



Instant Quantitative
Results

PLUM Platform Overview

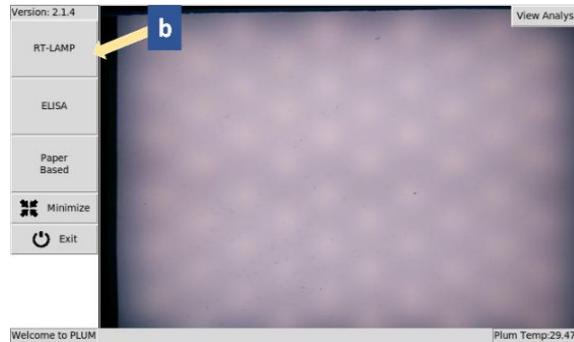
PLUM is an isothermal plate reader that quantifies optical reactions in high-throughput.

- Absorbance and fluorescence reading
- Isothermal incubation up to 70°C
- High-throughput format (96 well PCR plate)
- Instant and automated data analysis
- Stand-alone device
- Easy data transfer via USB/E-mail
- User-friendly interface
- Small footprint (19cm x 27cm x 27cm)
- Internet connection via Wifi and Ethernet

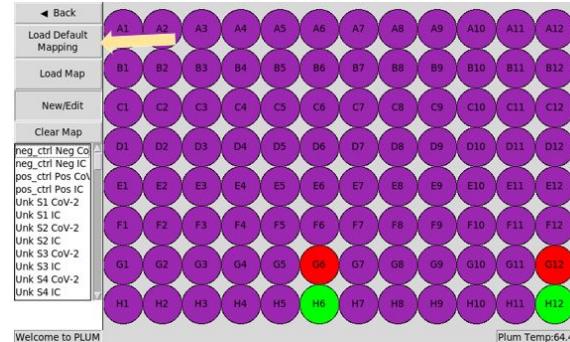


PLUM User Interface

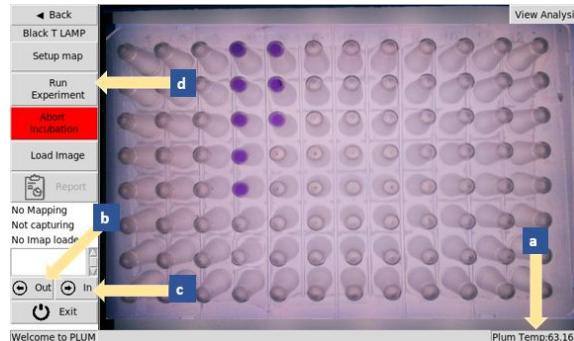
Main Window



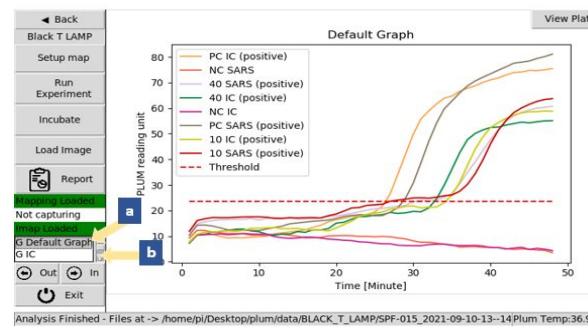
Map Setup



Reaction In Progress



Results



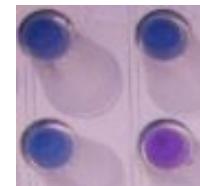
PLUM Multi-Mode Detection: Fluorescence / Colorimetric

**Testing Principle
(LAMP)**

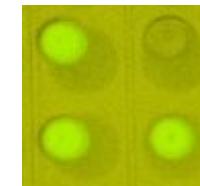
ΔpH Sensitive



$\Delta[\text{Mg}^{2+}]_{\text{free}}$



dsDNA Intercalation



Output Signal

Pink-Yellow

Blue-Purple

Fluorescence

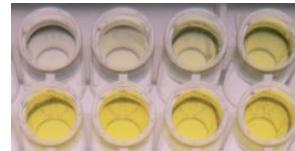
Output Result

- Images

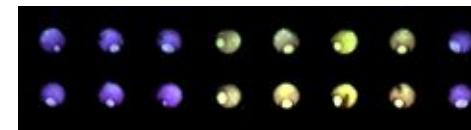
- Graphic Plot

- Raw Readings in Excel

Additional Capacity



ELISA Reading

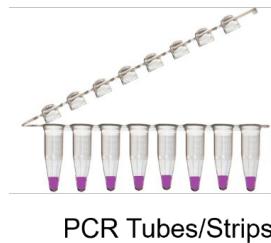


Paper-based, 384 well plate Reading

SARS-CoV-2 Nucleic Acid Amplification Platform



Preparation

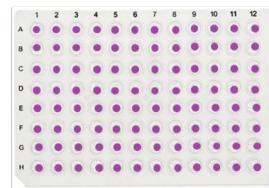
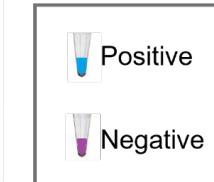


PCR Tubes/Strips

Incubation

Incubate at 65°C
for 50 min

Analysis

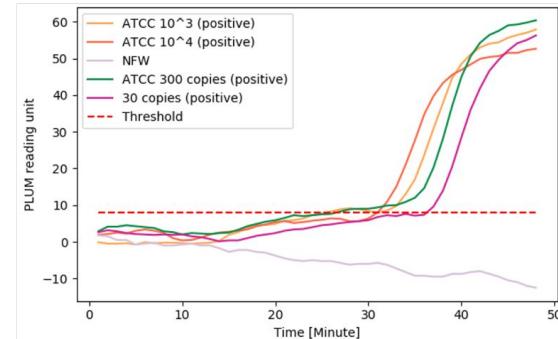


96 well plate



PLUM-HT™

Graphical Output



For research use only.



SARS-CoV-2 Nucleic Acid Amplification Kit

Reagents are shipped at **room temperature**. All the reagents except Nuclease Free Water (NFW) are in the lyophilized form.

| Components | Description of Components |
|----------------------------------|---|
| Master Mix | Reagents for LAMP Reaction. |
| SARS-CoV-2 Primer Mix | Primers amplifies ORF1a and E1 gene. |
| Internal Control Primer Mix (IC) | Primers amplifies Actin B gene. |
| Positive Control (PC) | Gene of SARS and Actin. |
| Lysis Additive | (Optional) Lysis the cells to release the nucleic acid for amplification. |
| Nuclease Free Water (NFW) | |

For research use only.

Kit size: 96 reactions or 24 reactions

SARS-CoV-2 Nucleic Acid Amplification Kit



Kit works both with extracted RNA samples and direct nucleic acid samples in UTM, VTM, PBS or Saline.

EXTRACTED RNA: Sample input could be an extracted RNA eluted in NFW, TE Buffer or RNA extraction kit's elution buffer.

8 ul of extracted RNA + 8 ul of rehydrated reaction mix

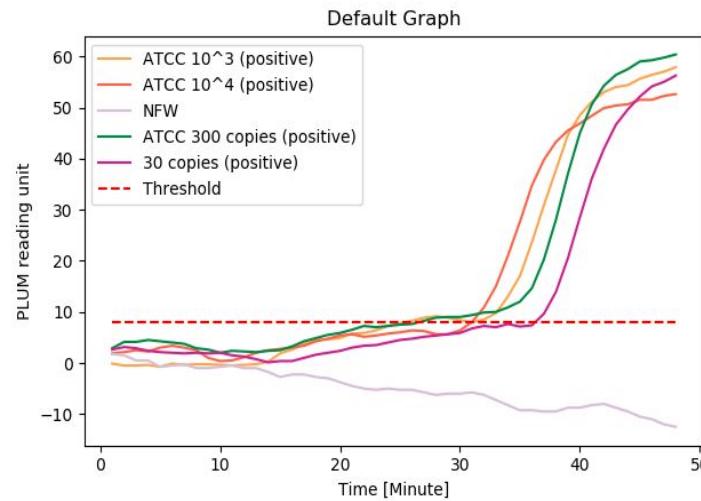
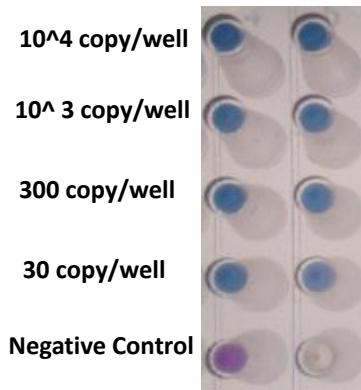
DIRECT LAMP with direct samples: For using samples with intact virus suspended in PBS, VTM, UTM or saline.

4 ul of heat lysed sample + 12 ul of rehydrated Primer Mix

For research use only.

SARS-CoV-2 Nucleic Acid Amplification Kit

I. For EXTRACTED RNA protocol



- RNA was extracted from commercial heat inactivated intact virus.
- Robust Sensitivity greater than many lab tests.

For research use only.

* Pictures and graph generated by PLUM device developed by LSK.
** Threshold for reference.

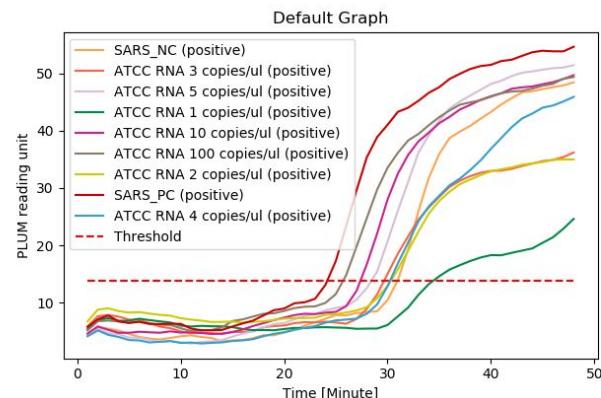
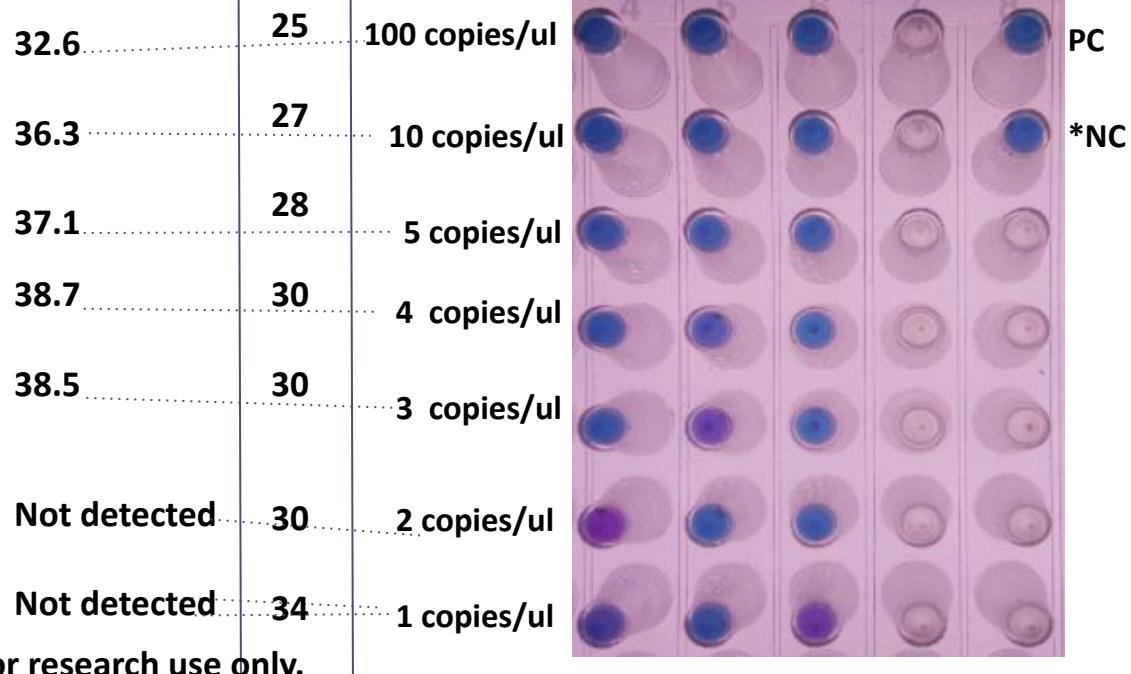
SARS-CoV-2 Nucleic Acid Amplification Kit



I. For EXTRACTED RNA protocol

Kit Performance on SARS-CoV-2 Detection using Extracted RNA

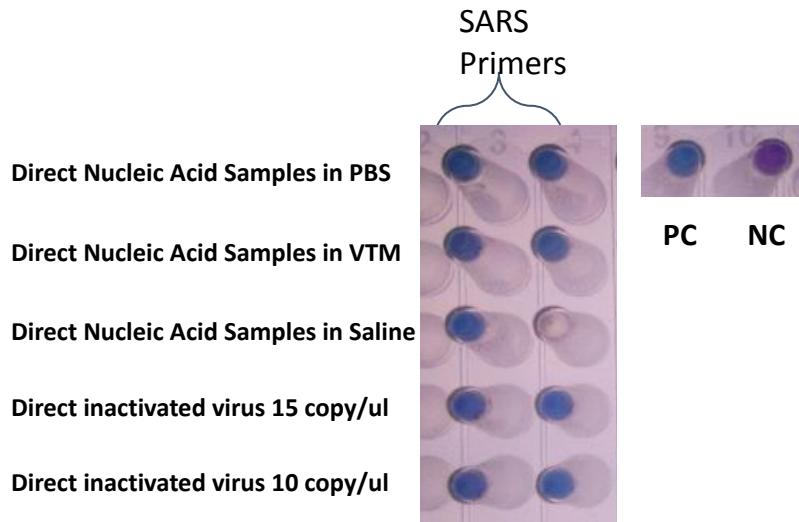
RT-qPCR cT TTR Copies/ul (8uL added)



*NC: invalid negative control

SARS-CoV-2 Nucleic Acid Amplification Kit

II. For DIRECT LAMP protocol



- Acceptable sample type include VTM, UTM, PBS and Saline.
- Robust sensitivity with LOD of 10 copy/ul for direct LAMP protocol and

For research use only.

* Pictures generated by PLUM device developed by LSK.

Platform Highlights

- **Affordable**
 - Portable device PLUM: \$3,500 USD
 - All in one RT-LAMP Test: \$500 USD / 96 reactions
- **No cold chain storage required**
- **Adaptable** - The device can detect pink-yellow, black-purple and fluorescent RT-LAMP, as well as other optical reactions such as ELISAs
- **High Performance**



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Questions?

Thank you for listening.