Sponsored Paper
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Decontamination of Gilson® Pipettes Using High Intensity UV LED

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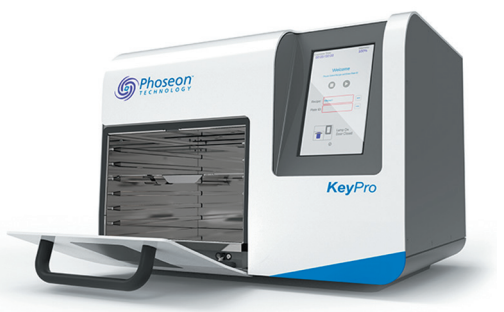
BACKGROUND

Having clean pipettes is a consistent need in any laboratory. Current methods of cleaning, however, are not without downfalls. The process is often time-consuming and utilizes expensive chemicals that can leave residue and eventually cause corrosion. Thus, laboratories are in need of a quick and cost-effective way to decontaminate their pipettes.



CONCLUSION

Achieved complete inactivation of RNaseA on white shafts of Gilson® pipettes using Phoseon's KeyPro™ UV LED Decontamination Instrument. Shafts suspended over reflector tray and exposed to two 0.5 mm/sec scans (4 minute 54 second per scan) with 80% 275nm intensity and 90% 365nm intensity.

METHODS

Two shafts, one from a P200 and one from a P20 Gilson pipette, were soaked in 0.02u/mL RNaseA-doped water for 10 minutes. A total of 90mL of doped water was prepared and split into two 50mL graduated cylinders for soaking. Once dry, one shaft was exposed to a scanning UV LED source (KeyPro™, a decontamination instrument from Phoseon Technology). Treatment shaft was set on the reflector system (suspended over a curved piece of reflective aluminum) and placed as close to the window as possible (tray placed at 32mm mark). It was then exposed twice in KeyPro with 0.5mm/sec scan speed (4 minute 54 second total per scan) at 80% 275nm intensity (1.6W/cm^2 at the window) and 90% 365nm intensity (900mW/cm^2 at the window). Making sure the shaft was rotated between passes. Both shafts subsequently soaked in ~25ml of NF H20 for 30 minutes for resuspension. Resuspension water then assayed in triplicate (one sample each from the top, middle, and bottom of the vessel). RNaseA activity measured via fluorimetry (Gemini XPS) using the RNaseAlert assay (IDT).

RESULTS

Complete inactivation of RNaseA on white shafts after two 4 minute 54 second passes in KeyPro™, using reflector system with 80% 275nm intensity and 90% 365nm intensity. This was confirmed over three separate experiments (with treatment groups being sampled in triplicate each time). Below is a representative example from one of the three experiments.

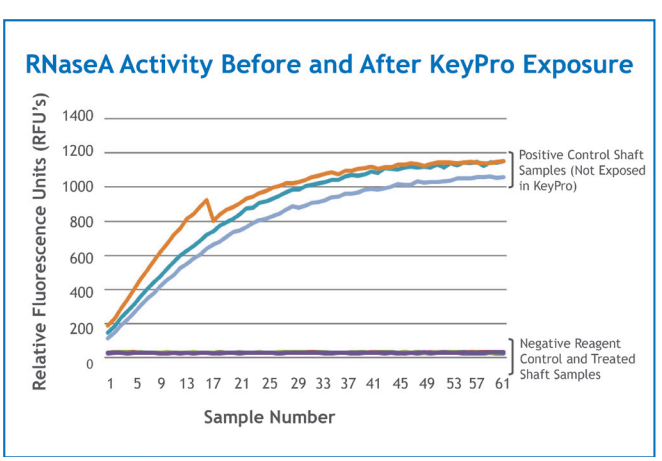


Figure 1

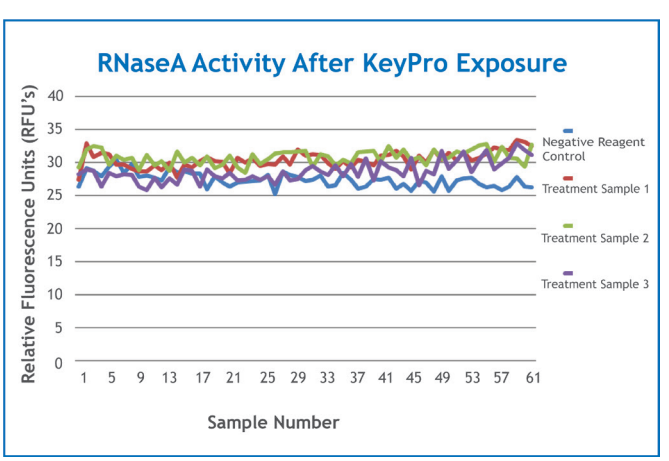


Figure 2

Phoseon TECHNOLOGY
INNOVATIVE LED SOLUTIONS™