



37°C Protocol Validation for MycoFog™

The standard protocol using the MycoFog™ system is run at 45°C for 3 hours. In some cases, this temperature may not be desirable or convenient and we have now validated a 37°C protocol.

Materials: MycoFog™ biodecontamination fogger from MycoFog™, MycoFog™ Reagent (7.8% H₂O₂), MycoFog™, Thermo HeraCell i150 CO₂ incubator, ThermoFisher Scientific, Bartovation 0-100 ppm H₂O₂ test strips. Apex EZTest H₂O₂ biological indicators, Mesa Laboratories.

Methods: The biodecontamination protocol described in the MycoFog™ manual was used with the following exceptions:

1. Incubator temperature was set at 37°C
2. Cycle time was increased to 4 hours (240 minutes)

All other parameters remained the same, e.g. wick priming, placement of the MycoFog™ instrument in the incubator chamber, etc.

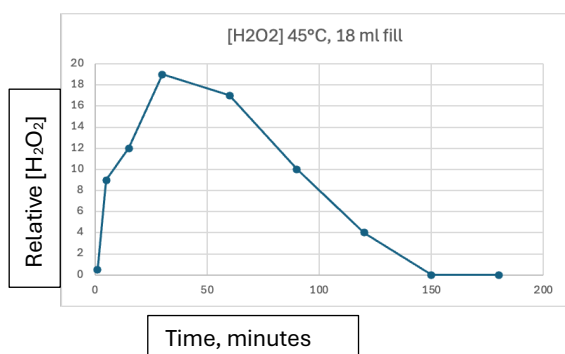
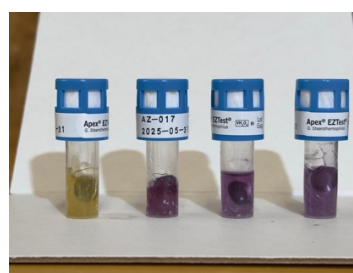
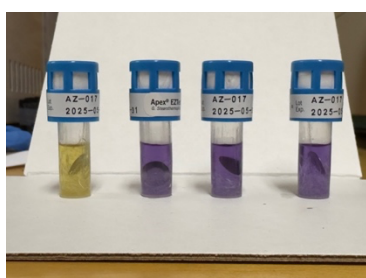
The vaporized hydrogen peroxide (vH₂O₂) concentration in the incubator was measured using a modified test strip method: test strips were exposed via the Incubator sampling port for 20 seconds then the result was read after 90 seconds, repeated for each time point. The method gives relative values, not absolute concentration. The biological indicators were used as described in the manufacturer's instructions.

Results:

The modified procedure shows 6-log kill using the biological indicators. The hydrogen peroxide concentration drops to safe levels (as defined by US OSHA, 1 ppm) by 220 minutes after the beginning of the decontamination cycle. The total cycle time must be increased to account for the increased time for vH₂O₂ degradation at the reduced temperature.

Conclusion:

Both 37°C (for 4 hours) and 45°C (for 3 hours) protocols can be used to decontaminate laboratory incubators with the MycoFog™ biodecontamination system.



37°C protocol

