Real-Time PCR Data Analysis Tool Utilizing a Novel Cloud-Based Software for Easy Interpretation of Animal Pathogen Detection

Denisse Meza, Rohan Shah, Robert Tebbs, Quoc Hoang, Rick Conrad – Thermo Fisher Scientific, Austin, TX, USA
Anne Quijada, Emeline Ripoche, Sandrine Moine – Thermo Fisher Scientific, Lissieu, France

INTRODUCTION

Current software versions on Real-Time PCR instruments were not specifically designed for the detection of pathogens, making data analysis and interpretation of multiplexed Animal Health assays difficult for users. Typically, qPCR data is analyzed manually which can be labor intensive and time-consuming. A complete package of data analysis software provides a faster and much more convenient alternative. The Animal Health group under the Applied Biosystems™ brand at Thermo Fisher Scientific now offers VeriVet Software, a user-friendly solution for the analysis of qPCR data for detecting animal pathogens.

MATERIALS AND METHODS

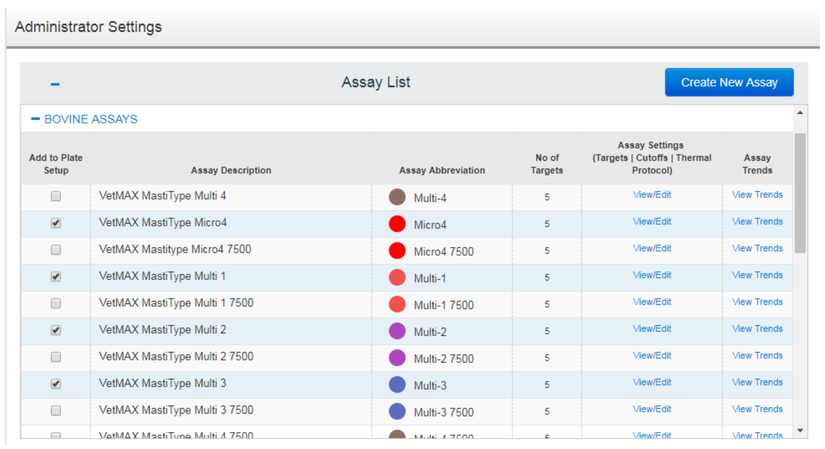
The solution is a new cloud-based software with a user-friendly graphical interface. The Animal Health VeriVet Software can be used to analyze data from runs performed on either the QuantStudio 5 or 7500 instrument series of Applied Biosystems Real-Time PCR Systems. Additionally, it has the capability to set up and remotely monitor a Real-Time PCR run in the QuantStudio 5 instrument.

1. Select assays for plate set up

The Animal Health VeriVet Software is compatible with all VetMAX kits and with Applied Biosystems 7500/7500 Fast and QuantStudio 5 Real-Time PCR Systems.

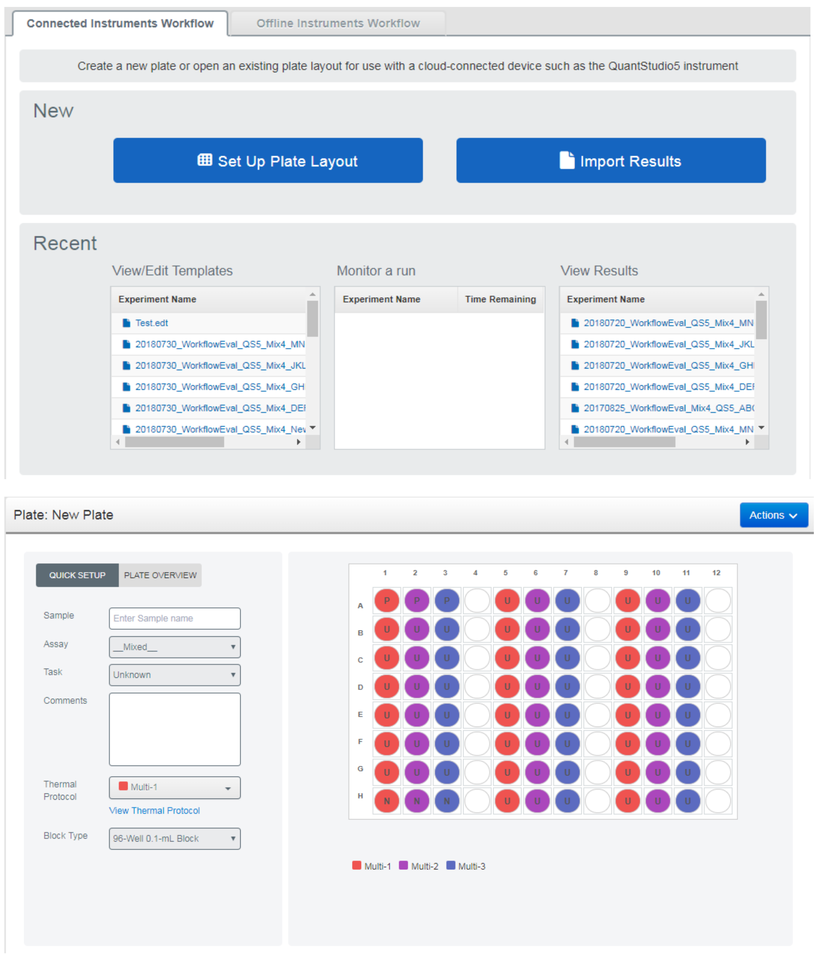
QuantStudio™ 5
Real-Time PCR System

7500 Fast & 7500
Real-Time PCR System



Most VetMAX assays are pre-populated in the Assay List and new assays can be created easily.

2. Set up the plate layout, then run the Real-Time PCR

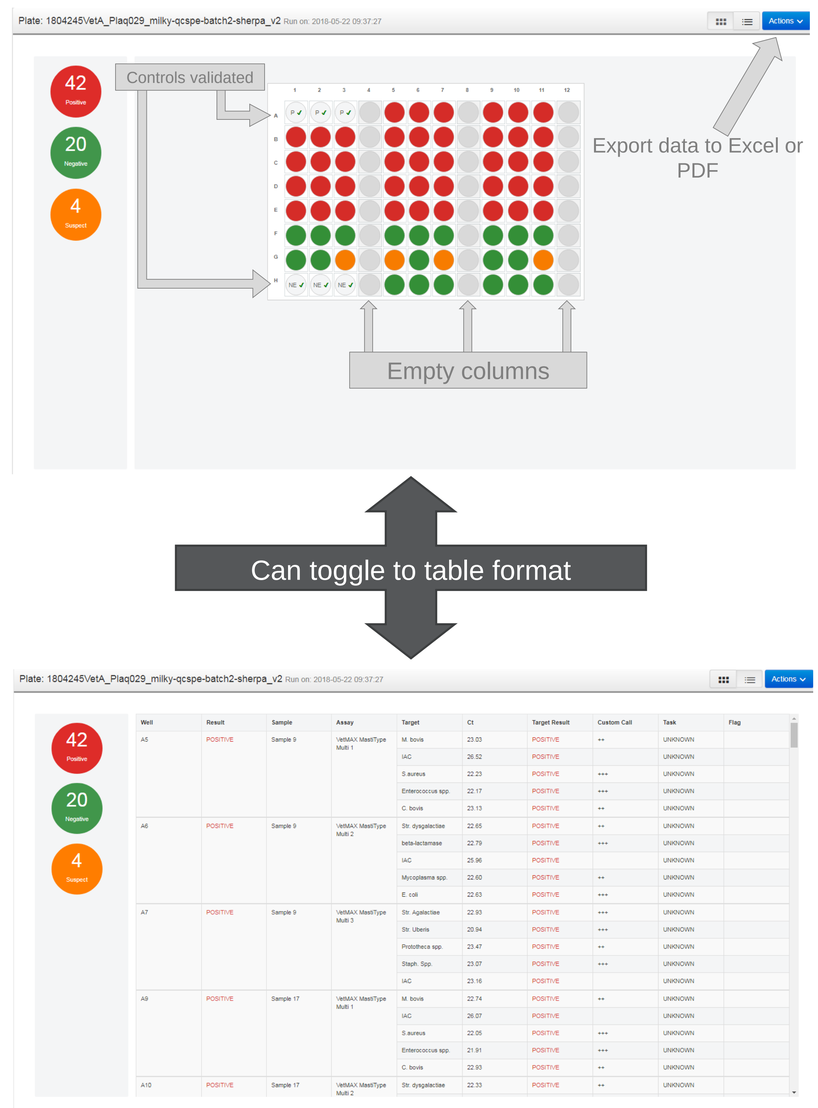


The plate layout is saved as a template file (EDT) in the Thermo Fisher Cloud.

- If using a cloud-connected instrument, the instrument run can be monitored from the app.
- If using an offline instrument, transfer the EDT file to the instrument, and then Import Results.

3. Review Results

Results are automatically analyzed and color-coded to produce calls on molecular testing determinations.



RESULTS

The Animal Health VeriVet Software has been verified on a broad range of single and multiplexed assays containing 4 to 16 targets per run and provides equivalent results as manual analysis. The data analysis takes less than 5 minutes to set up, applies the recommended instrument settings, and provides a report with qualitative and quantitative results for each target.

Individual cells can be selected in either format to provide amplification curves.

CONCLUSIONS

Multiplexed Real-Time PCR assays yield a vast amount of data that can be cumbersome to analyze and interpret. The Thermo Fisher Animal Health VeriVet Software is designed to analyze these data rapidly with minimum user direction.

ACKNOWLEDGEMENTS

- Venkat Reddy
- Kalyana Rao Dulu
- Rohit Chaturvedi
- Somashree Patra
- Sarath Budam
- Shaohua Ma
- Deepali Gosain

For Research Use Only. Not for use in diagnostic procedures.

©2018 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries.