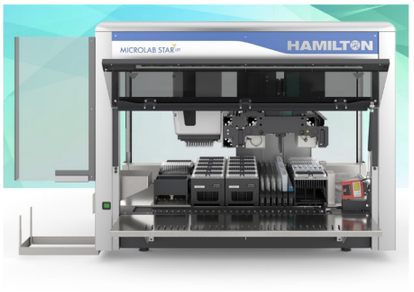
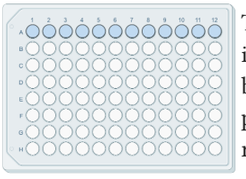
Sample Pooling Workflow

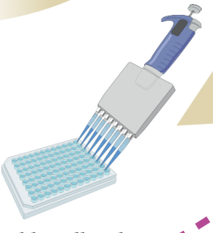
A sample from each individual is given a number, which is encoded in a barcode on the sample tube.

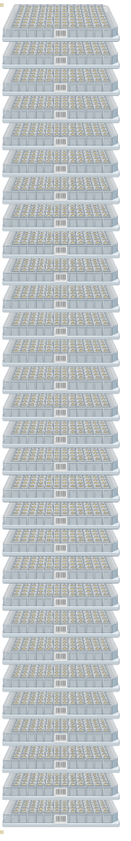
The Hamilton Microlab Star liquid handler automatically pulls sample tubs from a rack and scans the barcode on the tube, 12 tubes at a time.





The 96 well plate also has an identifying number encoded in a barcode. The plate number and well position for each sample is recorded.

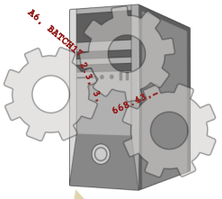


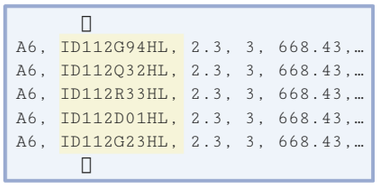


The liquid handler deposits 10-30 individual samples into a single well in the 96 well plate. These samples are mixed in the well. We call each well a sample pool.

What would normally take up to 30 plates now only takes one.

The qPCR data report is processed so that the results for each sample pool are assigned to the individual samples in the pool.





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A6, ID112G94HL, 2.3, 3, 668.43,…
A6, ID112Q32HL, 2.3, 3, 668.43,…
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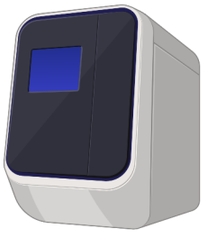
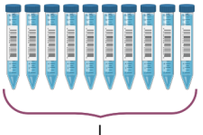
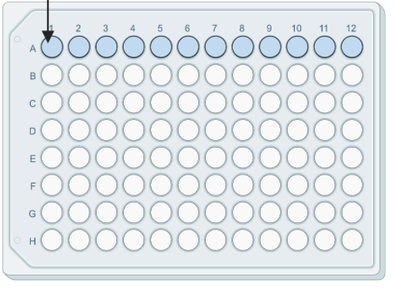


The pooled sample plate is then processed by a qPCR machine.

The Laboratory Information Management System (LIMS) records the data as usual. Samples in a positive pool are labeled presumptive positive.





The original sample tubes for the presumptive positive samples are retrieved from storage to be retested individually to determine which individuals in the pool are true positives.