

# Salmonella Detection from Large Milk Powder Samples using the Thermo Scientific™ SureTect Salmonella species PCR Assay

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## INTRODUCTION

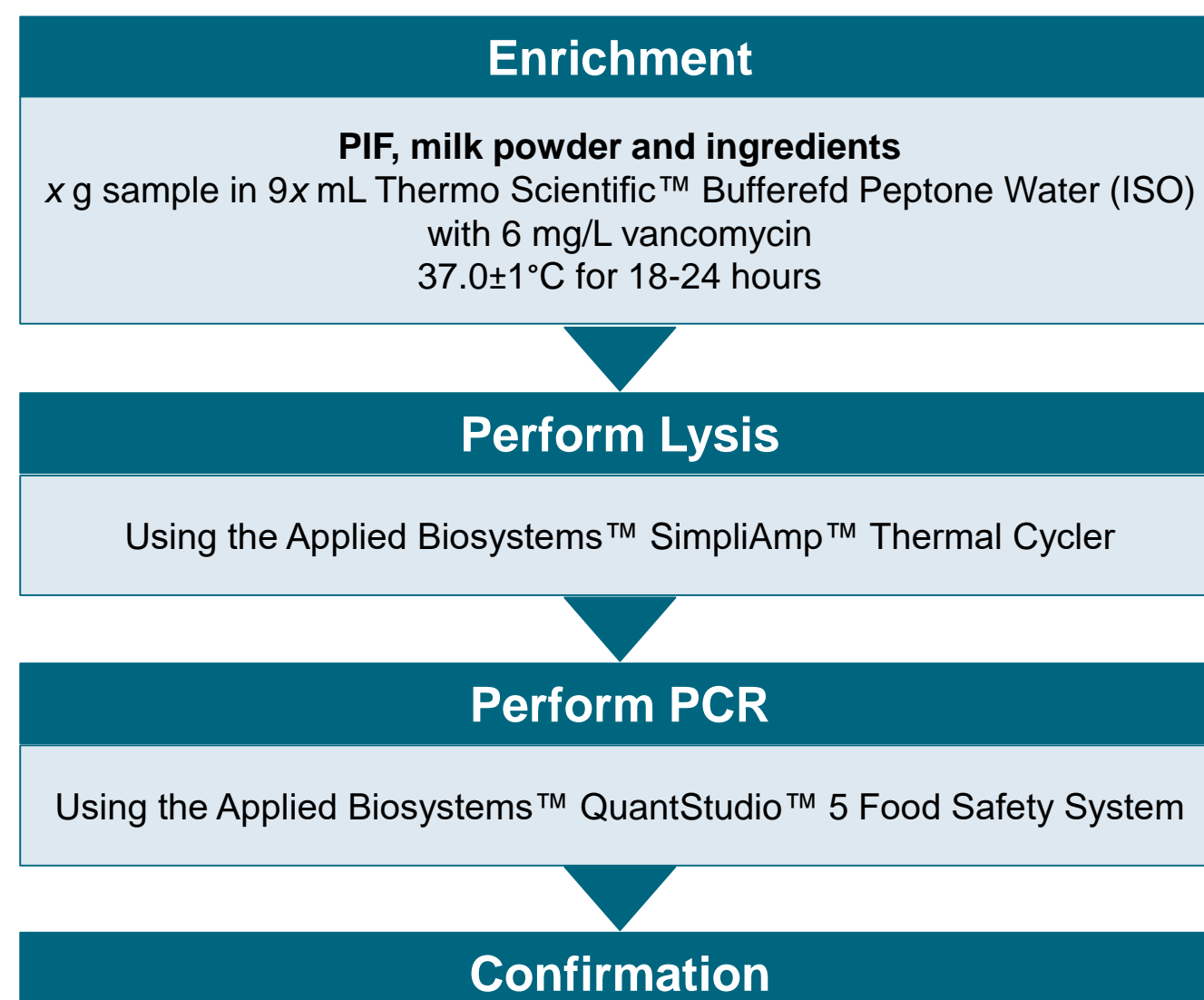
Due to their ability to survive heating and desiccation, *Salmonella* and *Cronobacter* contamination is a concern for powdered infant formula (PIF), milk powders and their individual ingredients.

The Thermo Scientific™ SureTect™ Salmonella species PCR Assay (candidate method) and the Thermo Scientific™ Cronobacter species PCR Assay offer a harmonized enrichment protocol for milk powder and ingredients.

Two studies were performed to evaluate performance of the SureTect Salmonella species PCR Assay for the detection of *Salmonella* serovars from 375 g samples of milk powders, in comparison to ISO 6579-1:2017.

## METHOD

Figure 1. Thermo Scientific SureTect Workflow



## FIRST STUDY

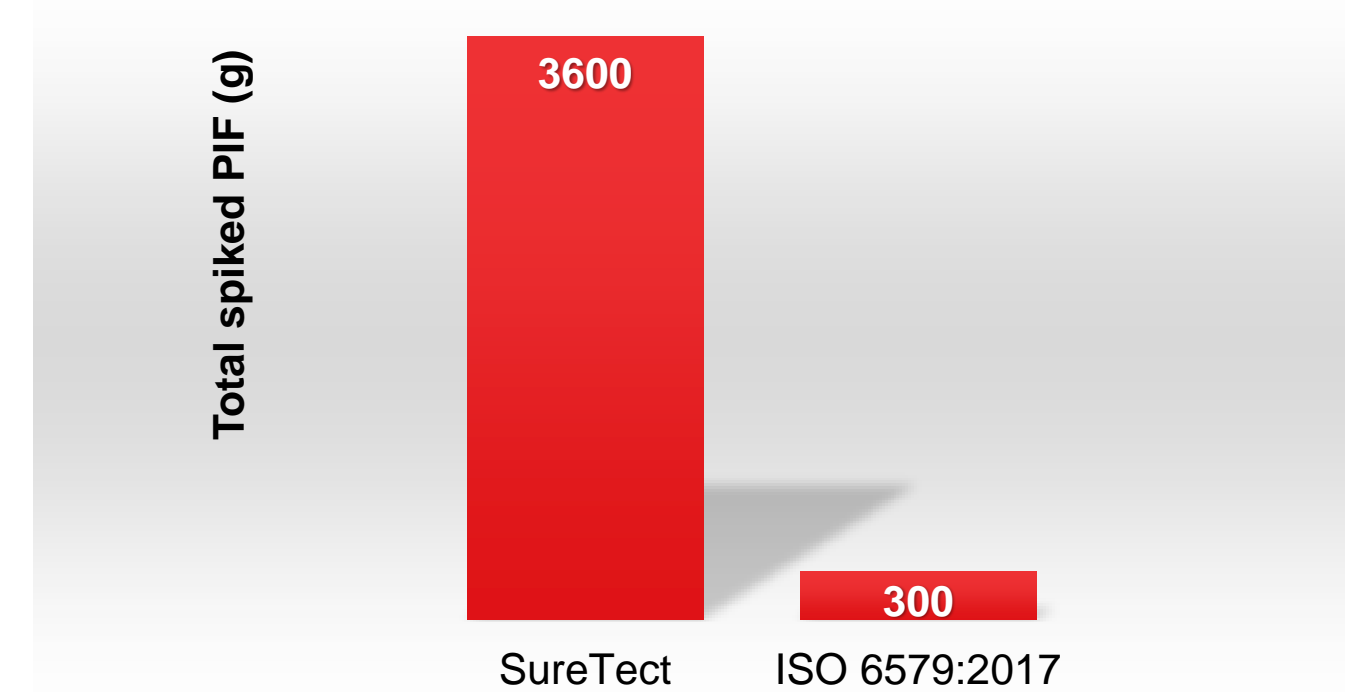
Twelve 300 g PIF samples spiked with *Salmonella* species and four unspiked samples were processed according to the candidate method shown in figure 1. An unpaired study was conducted vs. the ISO method.

Figure 2. Results from SureTect and ISO methods

Method	Detected	Confirmed
SureTect	12	12
ISO 6579:2017	-	12

- The candidate and ISO methods demonstrated equivalent performance.
- Testing the same number of samples, the candidate method tested a total of 3.6 kilograms while the ISO method tested 300 grams PIF (Figure 3).

Figure 3. Amount of spiked material tested through SureTect and ISO methods



The SureTect method tests samples sizes up to 375 g whereas the ISO method tests samples sizes up to 25 g.

## SECOND STUDY

Thirty-six PIF, milk powder and ingredient samples of 375 g were spiked with heat-injured *Salmonella* and analyzed via the candidate method. An unpaired study was conducted vs. the ISO method

Figure 4. Results from SureTect and ISO methods

Method	Detected	Confirmed
SureTect	26	28
ISO 6579:2017	-	27

- Two additional samples were confirmed positive for the SureTect method using the confirmation method (carried out for all samples).
- ISO 6579:2017 demonstrated comparable performance, confirming 27 *Salmonella*-infected samples.

Figure 5. Thermo Scientific SureTect Salmonella species PCR Assay



## CONCLUSIONS

### Comparable performance to reference method

- The SureTect Salmonella method (375 g) demonstrated comparable performance to ISO 6579-1:2017 (25 g).

### Harmonized enrichment protocol for *Salmonella* and *Cronobacter*

- Using the same enrichment to test for *Salmonella* and *Cronobacter* in samples of up to 375 g helps to maximize testing throughput and reduce materials costs.

### Optimized workflow

- Compared to the ISO method, the SureTect workflow requires fewer handling steps and provides results sooner, helping to improve laboratory efficiency and reduce product holding/release times.

## TRADEMARKS/LICENSING

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