

Comparison
CONGEN Spin Filter PREP methods
vs.
SureFast® Mag PREP Food
TanBead® Maelstrom 8
for extraction of nucleic acids



May 2020

CONGEN

vs.

SureFast® Mag PREP Food

May 2020

Information

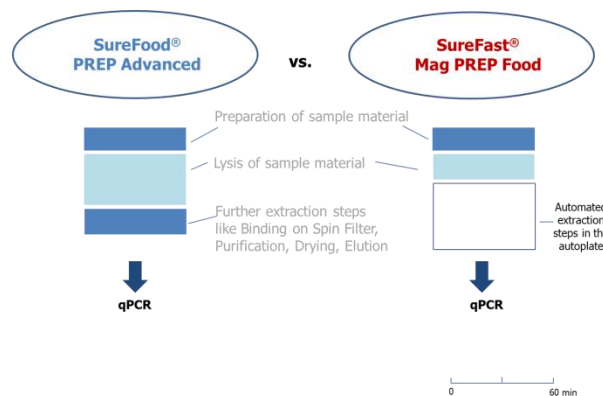
1) Introduction

The aim of this internal study was to compare CONGEN Spin filter based DNA extraction methods (SureFood® PREP Basic, SureFood® PREP Advanced, SureFast® PREP Bacteria) with new automated universal extraction method using TanBead Maelstrom 8 handler based on magnetic bead technology. Therefore a broad range of different food and feed samples in combination with several SureFood® and SureFast® qPCR testkits have been tested.

2) CONGEN Spin Filter PREP methods vs. CONGEN automatic extraction (SureFast® Mag PREP Food)

SureFood® PREP Basic/Advanced SureFast® PREP Bacteria	SureFast® Mag PREP Food
Spin Filter based extraction of nucleic acids various protocols for DNA extraction depending on matrix validated with all SureFood® & SureFast® kits	magnetic bead based extraction patented mixing approach fully automated DNA extraction less hands-on time handle up to 8 samples/run minimized risk of cross contamination + human errors verification for all SureFood® & SureFast® kits open system

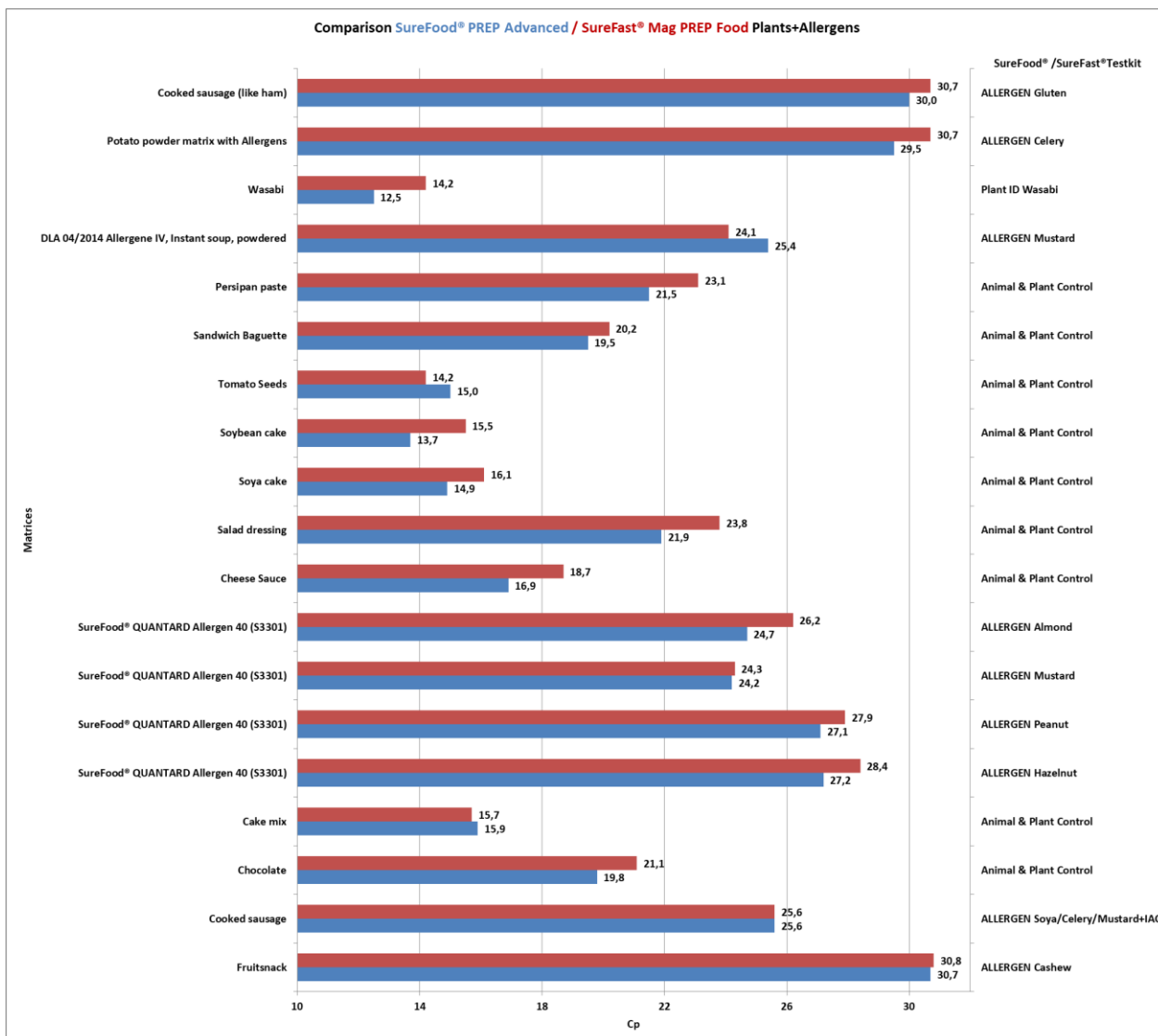
3) Handling time (example)



4) Comparison handling

	CONGEN Spin Filter extraction methods			CONGEN SureFast® Mag PREP Food
Name	SureFood® PREP Basic	SureFood® PREP Advanced	SureFast® PREP Bacteria	SureFast® Mag PREP Food
Article no.	S1052	S1053	F1021	F1060
Reactions	100	50	100	96
Intended use	"This kit is intended to be used for the extraction of animal and plant DNA (deoxyribonucleic acid) from raw materials as well as slightly processed food and feed."	"DNA extraction protocol 1 is designed for the sensitive extraction of animal and plant DNA from food."	"The kit is intended to be used for the isolation of bacteria - DNA from food (enrichments, avulsions and swabs)."	"The kit is intended to be used for isolation of animal and plant DNA from food and feed as well as bacterial DNA from bacterial culture enrichments with the TANBead Maelstrom 8 Autostage."
Sample amount	50 mg (100 mg for samples rich in water content)	100 mg * * can be varied	1 mL	50 mg (100 mg for highly processed and rich in water content samples) 1 ml enrichment (bacteria)
Lysis	30 min, 65 °C under shaking	60 min, 65 °C under shaking	10 min, 99 °C under shaking	30 min, 65 °C under shaking (Bacteria: additionally 10 min at 99°C under shaking)

5) Results for samples analyzed for Allergens and Plants



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Figure 1: shows Cp values for different food sample types. DNA extracted with SureFood® PREP Advanced and SureFast® Mag PREP Food; various qPCR testkits were used for analysis indicated on axis "SureFood®/SureFast® Testkit"

6) Results Samples analyzed for Animals

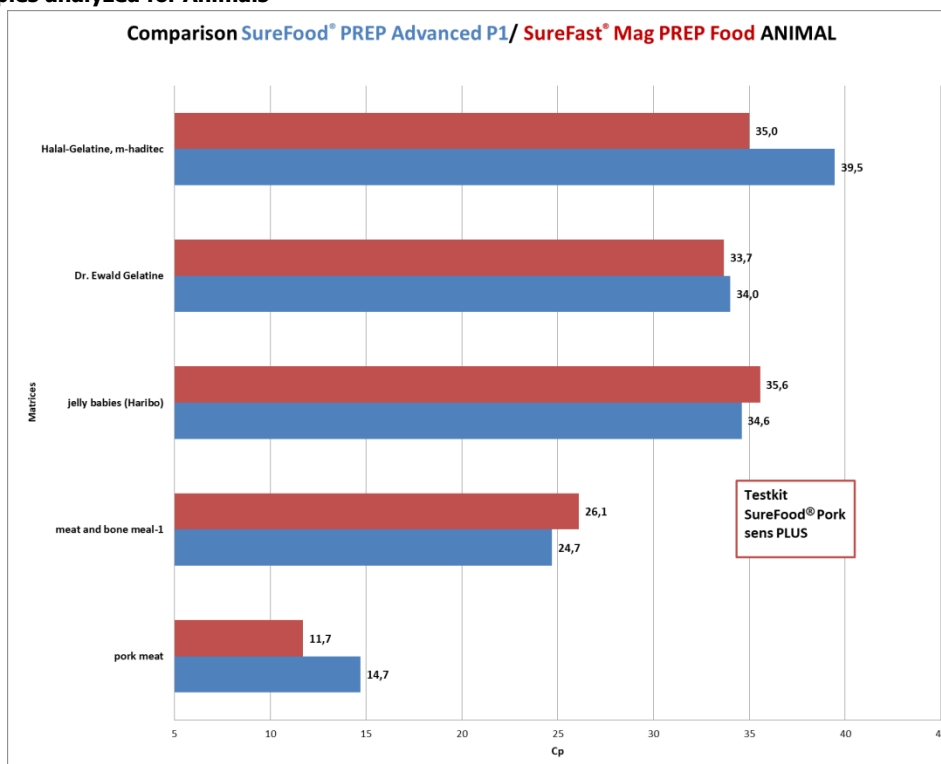


Figure 2: Cp values for different samples after DNA extraction using SureFood® PREP Basic and SureFast® Mag PREP Food

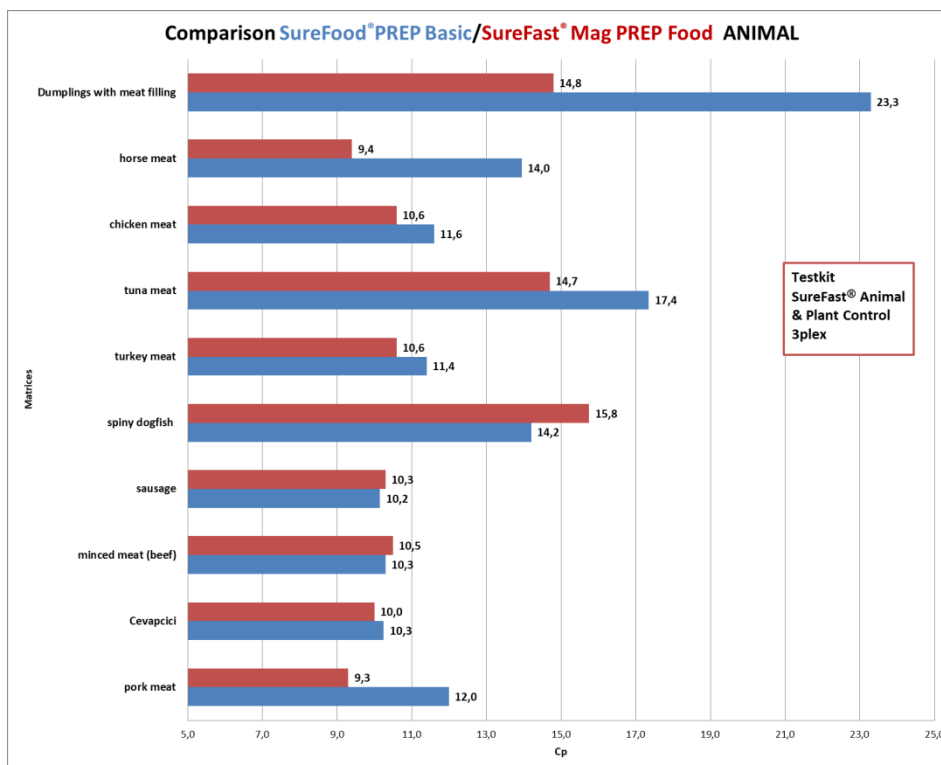
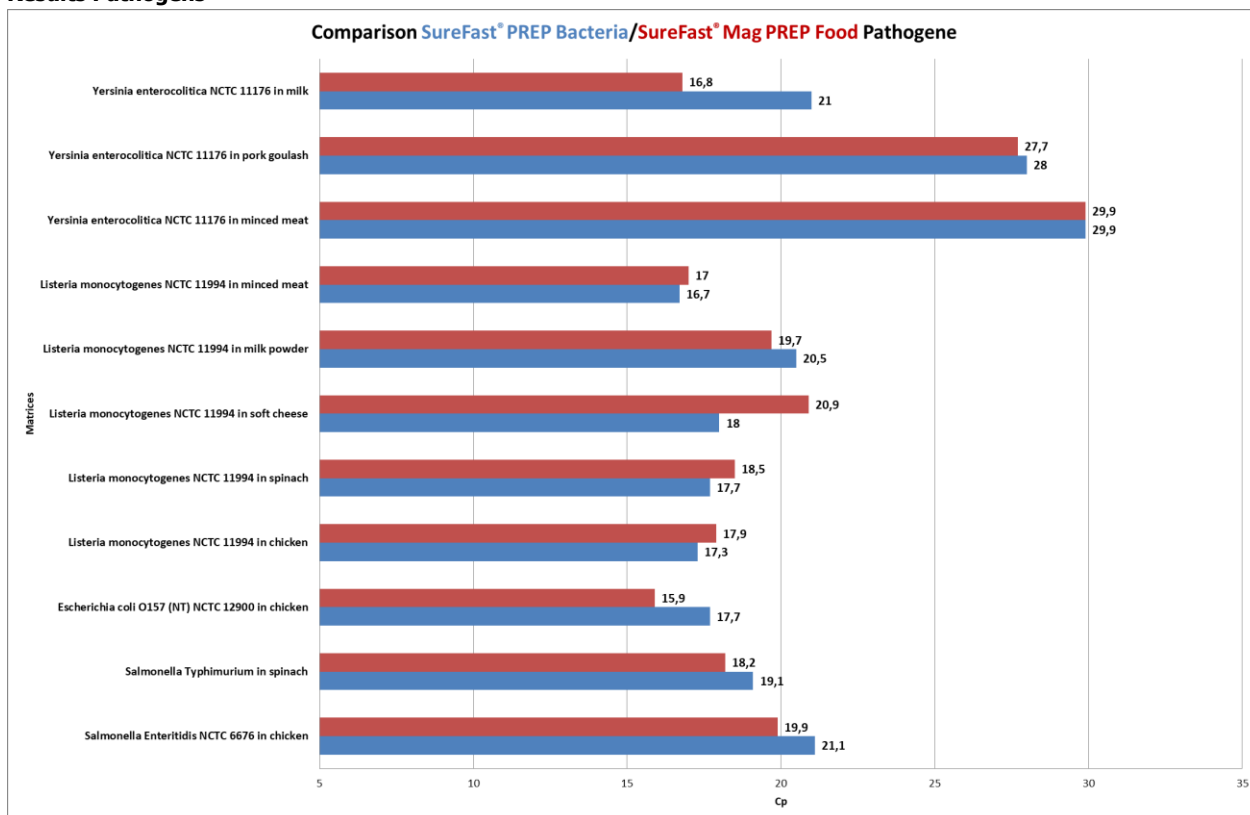


Figure 3: Cp values for different samples after DNA extraction using SureFood® PREP Advanced P1 and SureFast® Mag PREP Food

7) Results Pathogens



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Figure 4: Cp values for different samples after enrichment and DNA extraction using SureFast® PREP Bacteria and SureFast® Mag PREP Food

8) Conclusion

- ✓ Comparable or even better results using automated extraction with SureFast® Mag PREP Food
- ✓ ONE extraction kit for all sample types
- ✓ Patented mixing approach
- ✓ Time saving and efficient extraction method
- ✓ Applicable for a broad range of samples (except for spices and herbs, only spin filter extraction methods are possible)
- ✓ Open system