veriFLOW *Salmonella* species

***SALMONELLA* SPECIES**

Protect your brand with the most robust detection tools in the food industry

Accuracy. Ease of use. Zero compromise.

THE CHALLENGE

HIGH STAKES IN FOOD PROTECTION CALLS FOR FASTER, MORE ROBUST TOOLS

New regulations, harsher penalties and numerous brand-threatening recalls have placed substantial pressures on food manufacturers. These market conditions require a paradigm change in food safety and quality monitoring programs.

VERIFLOW TECHNOLOGY

PROVEN PLATFORM DELIVERS ACCURACY, SPEED AND SENSITIVITY

Veriflow technology is proven to provide rapid, accurate, actionable detection of pathogen and spoilage indicators – with no compromises on ease of use and affordability. The technology is easily deployed on-site allowing you to identify microbial risks, take corrective action, and prevent large-scale contamination.

- Unsurpassed specificity across a wide spectrum of microbes
- Robust detection in both simple and complex matrices
- Sensitive and accurate to ensure confidence in your processes
- Reduces hold times and eliminates the need to ship at risk
- Saves money and resources throughout your process
- Meets the changing needs of the industry and allows you to protect your brand

VERIFLOW *SALMONELLA* SPECIES

Offers accurate detection with highest degree of confidence

Veriflow *Salmonella* species provides robust specificity and sensitivity across an extensive variety of environmental surfaces and multiple food and beverage matrices, without complex and time consuming sample preparation.

Unmatched specificity

- Broad inclusivity of 104 *Salmonella* serotypes with 100% detection rate
- Correctly excludes all applicable strains tested including *Citrobacter* spp. and *Enterobacter cloacae*

Unrivaled sensitivity

- Target amplification of a conserved gene marker for *Salmonella* species
- Successfully validated in over 20 matrices
- Reliable results in even the most challenging matrices

Unsurpassed ease of use

- Streamlines your quality management processes
- Easily implemented on site with existing resources
- Eliminates the need for proprietary media, two-step enrichment, and DNA extraction sample preparation

INVISIBLE SENTINEL

PERFORMANCE TESTED AOAC RESEARCH INSTITUTE
LICENSE NUMBER 011404

PRODUCT OVERVIEW

Veriflow *Salmonella* species is a molecular based assay for the presumptive detection of *Salmonella* species. The Veriflow system utilizes a game-changing technology that combines proven diagnostic principles for microbial detection with innovative, first-in-class scientific approaches. The robust platform performs at the highest levels of accuracy even in the most challenging matrices, with vastly simplified sample preparation. The Veriflow® system eliminates the need for sample purification, gel electrophoresis, or fluorophore-based detection of target amplification. Results are visualized immediately on a hand-held cassette with no need for complex data analysis.

PERFORMANCE VALIDATION

AOAC Certification

AOAC Performance Tested Methods℠ Program was utilized for validation and verification of assay performance. Samples of environmental surfaces and a variety of food matrices were inoculated and sampled according to directions outlined in either the USDA/FSIS MLG 4.06 or BAM chapter 5 reference methods (3,4,5). Replicate samples of environmental surfaces and a wide variety of matrices were inoculated at a low and high level with an additional un-inoculated control set.

Synopsis of the Results

The results of the validation study study demonstrated the specificity, accuracy and reliability of the Veriflow® *Salmonella* species in over 20 different foods, raw materials and surfaces including the most challenging and complex matrices. POD statistical analysis of all matrices tested indicate that there is no significant difference in performance between the methods at specific time points as assayed in this study, and importantly, no false positive or false negative results were observed in the entirety of the study. The successful validation of the assay is further supported by data from the inclusivity and exclusivity testing, indicating that the Veriflow® *Salmonella* species assay was able to accurately detect over 104 *Salmonella* isolates while correctly excluding all non-specific bacteria tested.

Conclusion

Extensive testing was conducted to validate the sensitivity of the Veriflow *Salmonella* species assay. Over 160 samples were tested across a wide variety of challenging matrices without complex samples preparation after enrichment. The Veriflow® *Salmonella* species assay provides flexibility and ease of use for the end user while delivering accurate results across multiple surfaces with sampling by either swabs or sponges, and across a variety of food matrices, without complex sample preparation after enrichment. The Veriflow® system also offers significant time savings by producing accurate presumptive results after a standard enrichment time of only 18 hours.

SPECIFICITY

Assay	Strains	Results	
Inclusivity	104 *Salmonella* Serotypes	100 % Detection Rate	Correctly identified all strains tested
Exclusivity	35 Non-*Salmonella* species	100 % Exclusion Rate	Correctly excluded all strains tested including *Citrobacter* spp. and *Enterobacter cloacae*

SENSITIVITY

Matrix	Demonstrated equivalence to USDA MLG or FDA BAM reference method	External Validation	Client References
Environmental Samples (incl.Stainless Steel, sealed concrete, ceramic tile, and plastic)	YES	YES	YES
Ground Beef	YES	YES	YES
Dairy Products (i.e. milk)	YES	YES	YES
Peanut Butter	YES	YES	YES
Poultry Carcass Rinse	YES	YES	YES
Hot Dogs	YES	YES	YES
Whey Protein Powder	YES	YES	YES
Spices (i.e. black pepper)	YES	YES	YES
Confectionery Products	YES	YES	YES

Other matrices validated to date: Nutraceuticals, Chicken Fat and Broth, Chocolates, Fish and Shellfish, Leafy Greens, Cream Yeast and Dry Yeast Cultures, Juices

VERIFLOW *SALMONELLA* SPECIES TECHNICAL SPECIFICATIONS

Specificity	104 *Salmonella* serotypes
Time to Results	18 hours enrichment + 2 hour assay time
Matrix Compatibility	Wide variety of surfaces and matrices
Sensitivity	Zero tolerance detection
Assay Format	Qualitative
Test Stability	1 year expiration with proper storage
Enrichment	Single step enrichment in buffered peptone water or lactose broth No selective supplements required
Sample Preparation	Molecular platform that eliminates need for DNA extraction or purification
Work Flow	Simple 3 step procedure
Results Interpretation	Immediate visualization on hand-held cassette - no complex data analysis

For more information or to place an order, please contact Invisible Sentinel at 215.966.6118 or www.invisiblesentinel.com