Development and Verification of Hygiena™ BAX® System ListeriaQuant™ for Environmental Swabs to Quantify *Listeria* genus and *L. monocytogenes*

Environmental monitoring utilizing prevalence have shown limitations when reducing risk, therefore, adoption of verified quantification methodologies with reliable results and wide enumerable ranges should be utilized to make data-driven food safety decisions. *Listeria* can become a resident or transient organism that constantly causes positives results, however, understanding the amount of organism that is present can greatly increase the ability of correct actions and sanitation efforts to reduce.

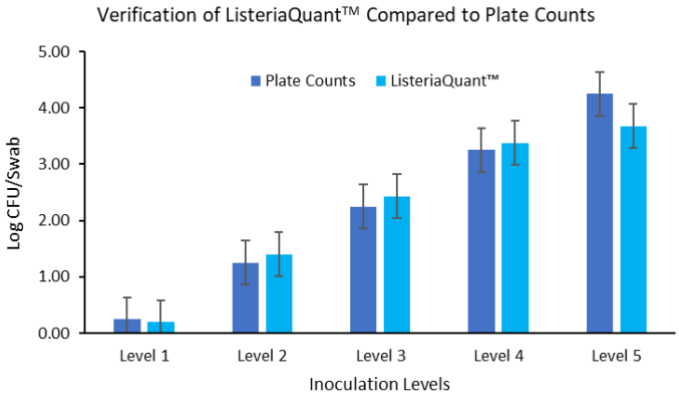
This verification provides food industries with an accurate, reliable, and quantification tool to reduce time to result for environmental swabs when testing for *Listeria*.

Verification Methods

- The evaluation consisted of 16 individual environmental swab samples inoculated with *Listeria monocytogenes* to be utilized for both the BAX System Real-Time PCR Assays for Genus *Listeria* and *Listeria monocytogenes*.
- Five distinct inoculation levels ranging from 0.25 to 4.25 Log CFU/Swab were used to inoculate environmental swabs and determined the BAX System recovery of inoculation levels at various timepoints.
- 1 – 10 mL D/E broth swab with 90 mL 24 LEB Media was used to determine recovery results.
- Estimations and comparisons were determined using BAX System ListeriaQuant and MPN plate counts.

Verification Results

- Results of the verification study showed ListeriaQuant demonstrated comparable performance to that of the known inoculation levels determined by plate counts for estimating Genus *Listeria* and *Listeria monocytogenes* in environmental swabs.



Matrix	Sample Size	Media	Incubation Conditions	Enumerable Range
Environmental Swabs	1 swab pre-moistened with 10 mL D/E Broth	90 mL 24 LEB	35° C for 16 h	0.25 – 4.25 Log CFU/swab

Application Highlights

- **One enrichment, one sample prep,** no additional protocols, equipment, or consumables to continue to perform both quantification and prevalence testing.
- **Widest enumerable range** across environmental swabs to facilitate contamination levels observed in environmental sample types taken from facilities.
- **Find positives faster,** utilize the range of quantification to receive faster results for positive samples resulting in faster decision making and corrective actions.