

InSite™ Salmonella Performance Validation

This data summary shows the performance of InSite. Inclusion of a pre-enrichment step substantially improved the performance and sensitivity of the AOAC-RI approved PDX-SIB medium contained in InSite Salmonella. Optimal color change results were achieved with 6 hrs pre-enrichment and 24 - 48 hrs total enrichment (Table 1).

Total Incubation Time	24 hours			48 hours		
	Inoculum (CFU)	100 – 1000	10 – 100	1 – 10	100 – 1000	10 – 100
No Pre-Enrichment	-	-	-	+	-	-
6 hrs Pre-Enrichment*	+	+	-	+	+	+
18 hrs Pre-Enrichment	+	+	+	+	+	+

- No color change; + Color change

*6 hour pre-enrichment is the recommended protocol for optimal test results. Omitting pre-enrichment reduces the efficiency of *Salmonella* recovery and increases the probability of false negative results. Pre-enrichment time can be extended beyond the recommended 6 hours, although the probability of false positive results will increase.

Inclusivity/exclusivity studies confirmed specificity of the test for a range of *S. enterica* subspecies and serovars (Table 2). A positive result is sometimes produced by some strains of closely related bacteria such as *Citrobacter* and *E. coli*. *C. braakii* and some strains of *C. freundii* are well-known to cause this false positive effect in *Salmonella* tests.

<i>Salmonella</i> Species	Serovars	Media Color After 48 hrs	Presumptive Result
<i>Salmonella enterica</i> subsp. <i>enterica</i>	23	Yellow	+
<i>Salmonella enterica</i> subsp. <i>arizonae</i>	1	Yellow	+
<i>Salmonella enterica</i> subsp. <i>diarizonae</i>	1	Yellow	+
Non- <i>Salmonella</i> Species		Media Color After 48 hrs	Presumptive Result
<i>Citrobacter braakii</i>		Yellow	+
<i>Citrobacter koseri</i>		Purple	-
<i>Citrobacter freundii</i>		Purple	-
<i>Escherichia coli</i>		Purple	-
<i>Pseudomonas aeruginosa</i>		Purple	-
<i>Staphylococcus aureus</i>		Purple	-

Data from Tables 1 and 2 are shown as visual results in Figure 1. *S. Anatum* (Panel A) and *P. aeruginosa* (Panel B) were positive and negative controls respectively. *C. braakii* (Panel C) was detected by InSite Salmonella, though not at low levels (1 – 10 bacteria).

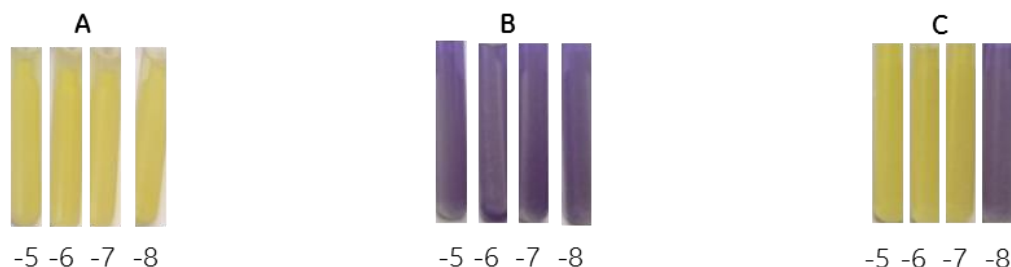


Figure 1. Panel A: *Salmonella enterica* subsp. *enterica* serovar Anatum, Panel B: *Pseudomonas aeruginosa*, Panel C: *Citrobacter braakii*. All tests followed 6 hours in pre-enrichment protocol. The numbers below the color media refer to the dilution factor (-5 = 1,000 – 10,000, -6 = 100 – 1,000, -7 = 10 – 100, -8 = 1 – 10 bacteria). Yellow color indicates a presumptive positive result for *Salmonella*, while purple indicates presumptive negative result for *Salmonella*.