FAQs – RapidChek® SELECT™ SE

What does the RapidChek SELECT SE test detect?
The test is specific for Salmonella D1 serovars which include Salmonella Enteritidis, Pullorum and Gallinarum, etc. Salmonella Enteritidis is the most common D1 serovar found in the poultry environment.

If I am using a rapid test for SE, am I complying with the FDA Final Rule?
Yes. The RapidChek SELECT SE test has been demonstrated to have performance equal to or better than the FDA BAM method for drag swabs and egg pool samples (http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/EggSafety/EggSafetyActionPlan/ucm228796.htm).

For poultry carcass rinses, the method has been shown to be equivalent to the USDA FSIS cultural method. The test kit has AOAC-RI approval for each of these matrices.

What equipment and materials are required to perform the RapidChek SELECT SE test?
Equipment required includes: Incubator (42°C), autoclave and scale. Materials required include: stomacher/sample bags and containers for enrichment media. All other materials needed are included in the RapidChek SELECT SE test kit.

How has the test been validated?
The test has received performance validation by AOAC. FDA has reviewed the validation data and deemed the test method to be equivalent to their method for detection of Salmonella Enteritidis in drag swabs and egg pools.

Why could I potentially observe more SE positive drag swab results versus the FDA BAM method?
Through validation studies, it has been demonstrated that the RapidChek SELECT SE test system is more sensitive than the FDA BAM method. This may result in more SE positive environmental results vs. the FDA BAM method initially; however, the RapidChek system is the more accurate indicator of cleanliness of the layer house. This early indication of SE in the layer house will allow the producer the ability to eliminate SE in the environment before positive egg results are obtained which are very costly and disruptive to daily operations.

If I observe a positive result with the RapidChek SELECT SE test system, how do I confirm that the sample is truly positive for SE and not another D1 serovar?
For an environmental drag swab sample that is positive by the RapidChek SELECT SE test system, the RapidChek CONFIRM IMS confirmation kit should be used to isolate D1 Salmonella spp. from the secondary enrichment. Once isolated this is then streaked to XLT4 and BGN per the FDA BAM method to confirm for the presence of SE (O and H serology). For RapidChek SELECT SE positive egg pool samples, the secondary enrichment is streaked directly to XLD, HE, and BS agars as per the FDA BAM method to confirm SE (O and H serology). There is no need to use the RapidChek CONFIRM kit with egg pool positive samples.

Why do environmental drag swab samples require isolation by immuno-magnetic beads (IMS) to confirm the presence of SE in RapidChek SELECT SE positive samples?
The layer house environment has the potential for many different strains of Salmonella to be present. If a positive drag swab sample is streaked directly to XLT4 and BGN agars, other salmonella serovars could potentially be present in much higher numbers on the plate making it difficult to be able to pick the D1 (or SE) colony.

For example, for confirmation up to 5 colonies must be picked from each plate, if the concentration of non-D1 salmonellas in the enrichment is much greater than D1 (or SE), the chance of picking a non-D1 Salmonella are greater and will lead to a "false positive" interpretation. When the IMS procedure is used, D1 Salmonella (including SE) is isolated from the enriched sample and then streaked onto the agar plates. Typical salmonella growth on the plates at this point is most likely D1 Salmonella (including SE) and not anther serovar of Salmonella.

Does the test cross react with other Enterobacteriaceae or any other organism that may be present in the sample?
To our knowledge the RapidChek SELECT SE strip does not cross react with any bacteria. In the AOAC inclusivity study, eighty-three (83) Salmonella Group D1 strains, including sixty-three (63) Salmonella Enteritidis strains tested positive. Thirty-two (32) isolates of non-Group-D1 Salmonella as well as Enterobacteriaceae from 10 different genera tested negative in the exclusivity study.

How long is the RapidChek SELECT SE enrichment protocol and how is it run?
Two-step, 32-48 hour enrichment protocols for all sample types. Specifically for the drag swab analysis, the first step involves adding 100 mL of the primary base media with supplement to the sample and incubating 16-22 hours at 42°C. After primary incubation, 200 µL of the enriched sample is transferred to 2 mL of the prepared secondary media. This is then incubated for an additional 16-22 hours. After secondary incubation, an immuno-detection device is placed into the test tube and the result is recorded after 10 minutes. For the pooled egg analysis, 200 mL of the primary base media with supplement is added to a 20 egg pool and this is then incubated at room temperature for 40-48 hours. After primary enrichment, 100 µL of the enriched sample is transferred to 1 mL of prepared secondary media and then incubated for an additional 6-8 hours at 42°C. Following the secondary enrichment, an immuno-detection device is added and read after 10 minutes. For more detailed protocol, please see the Package Insert.

What are phage and why are they used as a supplement in the primary media?
Bacteriophages (or phages) are bacterial viruses that are utilized as selective agents in the primary media. Phages are highly specific toward their targets and significantly improve the productivity of the media by attacking and essentially ridding the enrichment of competitive and cross reactive bacteria.

Are phages dangerous?
No. Phage are not pathogenic to humans or animals. They ubiquitously occur in nature.

How do I store the RapidChek SELECT media?
The primary base media and secondary media can be stored at room temperature. The primary supplement, containing phage and antibiotics, must be stored at 2-8°C.

Do I have to autoclave the primary RapidChek SELECT base media?
No. Romer Labs has demonstrated equivalent performance between autoclaved versus non-autoclaved media. For the non-autoclaved option, simply sterilize the water, pre-warm to 42°C and add dehydrated powder. For the autoclaved option, dehydrated powder is added to DI water and mixed then autoclaved. The supplement should be added to the media once it has cooled and right before use of the media. Do not autoclave the media once the supplement has been added. See the Package Insert for complete instructions.

How do I prepare the RapidChek SELECT secondary enrichment media?
For best results, add 7.4 grams/100 mL of DI water and bring to a rolling boil. Allow to cool and dispense into 1 mL or 2 mL volumes dependent on the protocol. Prepared media can then be stored at room temperature or 2-8°C for 4 weeks. Alternatively, add media to sterile water and use immediately. See the Package Insert for complete instructions.

If I autoclave the primary media, how long can I store it?
Autoclaved media can be stored at room temperature or 2-8°C for up to 4 weeks as long as the supplement has not been added. Once the supplement is added, the media should be used within 3 hours of preparation. When using refrigerated media, make sure to pre-warm it to 42°C just prior to use.

Should the stomacher bag be closed tightly or left slightly open during enrichment?
Sample bags should be closed loosely to allow air exchange during sample enrichment and optimize pathogen growth and antigenic expression.

Do I have to refrigerate the test strips?
No. The test strips can be stored at room temperature. Just ensure the lid on the can is kept closed, as the strips are sensitive to variations in humidity. There is a moisture indicating card in the canister that should be blue in color. If the moisture indicator is pink, please contact Romer Labs Technical Service.

What happens if I read my lateral flow strip at times greater than 10 minutes?
We recommend a 10 minute read time, but as part of our validation process it was demonstrated that the strips can be read up to 20 minutes and still considered a valid result.

If the test line is light should I still call it a positive result?
If a line is present at the test area on the strip, it should be called a positive result.

How should the enrichment media and test strips be disposed of?
As with all pathogen products, samples should be discarded according to good microbiological procedures. We recommend that both enrichment samples and test strips be autoclaved or treated with bleach.

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