

Pathogen testing is moving forward



Since pathogen testing is crucial for food safety and brand protection, new solutions are interesting where time, resource and cost savings are possible. Neogen has been developing its range of solutions to offer more choice in pathogen testing.

Molecular technology, such as polymerase chain reaction, or PCR, is one way of testing for pathogens. The method developed in the 1980s works by synthesising multiple copies of target pathogen DNA. PCR consists of three steps, the extraction, the amplification and the detection of the DNA. The amplification step is achieved by raising and lowering the temperature of the extracted DNA.

Unique technology and wet pooling

Compared to traditional PCR, Neogen's ANSR (Amplified Nucleic Single-Temperature Reaction) uses a patented amplification reaction technology enabling in-vitro DNA or RNA amplification at a constant temperature. The result is a compact-sized and easy-to use reader to fit in any laboratory setting. ANSR provides low level detection, following enrichment of specified targets after as little as 10 minutes. Results are available in as little as 24 hours. ANSR has received AOAC certification and NF Validation for the detection of salmonella, *Listeria* spp. and *Listeria monocytogenes* as well as AOAC certification for *E. coli* 0157:H7 and campylobacter. Wet pooling for the detection of *Listeria* spp. is also possible with ANSR. With this option, up to 10 samples can be tested in one assay, reducing the time and costs required to process large numbers of samples, even from different matrix types.

Results in under an hour without enrichment

Certain laboratories or food manufacturers have strict guidelines that do not allow the growth or storage of pathogens. While testing for listeria, food processing companies can be subject to regulations. In France and Germany, growing or storing pathogens is only possible if laboratories and technicians have been certified according to Niveau de confinement L2 (France) or Biologische Sicherheitsstufe S2 (Germany) regulations.

These approvals are expensive and time-consuming to obtain and many companies choose instead to send their environmental samples to an external laboratory to be tested. The problem here is that it can take days to receive results back from an external laboratory, which in turn can prevent the production facility from making quick decisions in cases of listeria contamination.

Neogen's *Listeria* Right Now is an innovative test that offers food processing companies the chance to test on-site for the presence of *Listeria* species, including *Listeria monocytogenes*, in environmental samples in less than 60 minutes without the need for enrichment. The test does not require any L2 or S2 approvals because companies do not have to grow potentially dangerous cultures in their facilities during the testing process, nor store cultures for follow up.

Listeria Right Now can deliver results in under an hour by using the ANSR technology. *Listeria* Right Now has been validated by NSF International and enables food safety professionals to very quickly implement corrective actions, where needed.



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