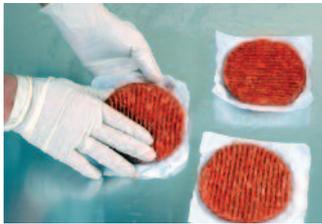


Options for



The diagnostic platform of the future

TwistDx Ltd have introduced recombinase polymerase amplification (RPA), a revolution in DNA and RNA detection. RPA replaces PCR with a rapid isothermal enzymatic process and is positioned to become the DNA-based diagnostic platform of the future. RPA products can be detected in real-time using fluorescent probes or by end-point methods such as lateral flow strips or gel electrophoresis.

The recent horse meat scandal has highlighted the importance of food safety and food fraud species authentication not only for the catering industry but consumers.

RPA has several benefits, which would make it the ideal technology for future food testing DNA diagnostics kits, including:

- Works in multiple food matrices.
- Wide range of detection formats and capabilities.
- Genetically modified organisms – rapid analysis.
- 20 minute assay time with positive results in 10 minutes.
- Foodborne pathogens – assay sensitivity keeps enrichment time short.
- Species authentication in under 20 minutes.

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Smart wireless monitoring helps streamline HACCP

Checkit from Elektron Technology dramatically speeds up time consuming and costly Hazard Analysis & Critical Control Point (HACCP) processes and reporting. It offers a fully audited, automated system with secure electronic data storage for continuous monitoring of temperature, humidity, door status and hygiene checks in food production, service and retail industries.

Checkit's smart wireless sensors ensure 24x7 monitoring without the need for manual checks and flexible, hand-held units collect food temperature and hygiene data at the press



of a button, reducing the risk of human error.

All data is time-stamped and downloaded to a centralised database, which automatically generates food safety compliance reports, along with a full audit trail.

Restaurants and food outlets with a high turnover of staff and inexperienced managers, combined with the constant pressure to cut costs, can lead to a systemic lack of hygiene procedures and corners being cut.

With Checkit, the process of food safety monitoring is automated and the smart wireless technology sends alarms to PCs, tablets or smartphones if there is a problem with food temperature, door status or humidity. The flexible, modular system is fully scalable for any type of food operation, from a single local site through to demanding multi-site operations, using intuitive web-based software to configure, monitor and manage the complete network from one location.

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Expansion of automation portfolio

Biotecon Diagnostics GmbH in Potsdam, Germany has developed an automated system for the analysis of GMOs and allergens as well as for the differentiation of animal species in foods.

The compact and robust foodproof RoboPrep Flex runs in combination with Biotecon Diagnostics' new foodproof Magnetic Preparation Kit III for optimal DNA extraction from even complex matrices.

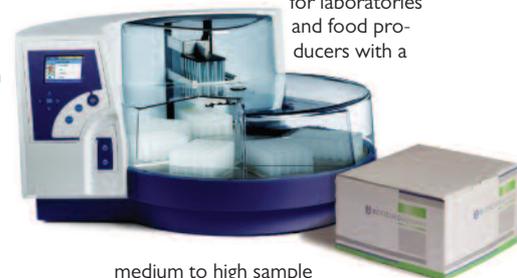
Extracted DNA can then directly be mixed with real-time PCR based foodproof detection and quantification kits. This combination provides a unique automated solution for fast and safe extraction of plant and animal DNA from foods, beverages, environmental samples, and raw materials.

The foodproof Magnetic Preparation Kit III utilises magnetic bead technology similar to their foodproof Magnetic Preparation Kit I for Gram negative bacteria and the foodproof Magnetic Preparation Kit II for Gram positive bacteria.

This technology allows the generation of ultra-pure, ready to use genomic DNA for enhanced performance in sensitive downstream PCR applications.

By using the foodproof RoboPrep Flex in combination with the foodproof Magnetic Preparation Kit III, 96 samples are easily processed within 35 minutes without the risk of cross-contamination.

Biotecon Diagnostics has developed the foodproof RoboPrep Flex for laboratories and food producers with a



medium to high sample throughput. Many different foods, beverages, environmental samples, and raw materials have been validated illustrating the robustness of the system.

✉ bjunge@bc-diagnostics.com

Rapid detection of faecal contamination in water

Colifast AS is developing and delivering technology for rapid detection of bacteria in water and food.

The Colifast instruments perform automated analysis on site and the risk of errors during sampling, transportation and preparation are reduced to a minimum. The Colifast instruments will automatically sample water, perform the microbial analysis and alarm the user.

Compared to traditional microbiological methods, the Colifast instruments reduce time from water sampling to result. Within 4-15 hours the user knows if there are any indicators present. The operator receives results via PLC, LAN or GSM network and/or via visual and audio alarms on site.

Colifast provides solutions for all types of fresh water and several options for different applications.

The technology has been on the market since 1992 and the first fully

automated instrument was launched in Gothenburg for monitoring Göta River in 2001 and is still in daily operation.

The Colifast Alarm was verified by US EPA's Environmental Technology Verification program, 2010. The Colifast technology went through ISO pre-validation in the EU project Demowatercoli, 2003 and holds international patents and patents pending.

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Accurate monitoring of multiple parameters

Proper sanitation is a key component to protecting food manufacturing facilities from introducing spoilage or pathogenic organisms to their products, surfaces and equipment. Cleaners and sanitisers must be correctly prepared and accurately measured to ensure they are effective.

Commonly used methods of measuring sanitiser concentration are test strips, titration kits, and inline chemical injectors. These methods are ambiguous, subjective, or labori-

ous to operate and maintain. In addition, they require manual documentation and analysis of results.

The Lightning MVP from BioControl monitors and records multiple HACCP parameters including ATP, pH, temperature and conductivity. Its conductivity probe can be used to accurately and efficiently measure the concentration of cleaners and sanitisers in parts-per-million.

Designed with an epoxy-based body, the probe is rugged, durable, requires little maintenance and is safe for use in food manufacturing plants.

The probe's results are five times more accurate than test strips or titration kits, resulting in more accurate measurements and significant cost savings for a facility.

The ability to record, track and analyse data will allow managers to adhere to their HACCP and hygiene programs while reducing overhead costs.

✉ info@biocontrolsys.com



ELISA kits and surface swabs for food allergens

Bio-Check (UK) develops, manufactures and markets ELISA kits for food allergens (almond, cashew, crustacea, egg, egg in wine, fish, hazelnut, lupin, milk [total milk; caseins; BLG/whey], mustard, peanut, pistachio, sesame, soya and walnut) and for cereal glutes.

They also produce Bio-Check 'ESS' surface swab collection sets to help support

produce rapid, on-site tests for the detection of gluten in foods, in surface swabs and for beverages/rinse waters.

The company have now launched their uniquely simple and fast 'on-site' tests for the detection of milk/caseins in swabs and for horse and pork contamination in raw meat products. The new raw meat tests will allow meat samples or surface swabs to be screened for the presence of horse or pork (single tests) and a dual horse/pork test will detect either or both meats using a single test unit, reducing hands-on time and costs.

Bio-Check UK also acts as UK/Ireland distributor for the Vicam-Waters range of single and multi-residue immuno-affinity columns, qualitative test strips and quantitative rapid tests for mycotoxins (aflatoxins, citrinin, DON, fumonisins, ochratoxin, T2-toxins and zearalenone).

✉ info@biocheck.uk.com

formal allergen cleaning validation; swab samples can easily be collected and sent to the laboratory for ELISA based validation clean-down procedures. Bio-Check also



Speeding up pathogen identification

PathoGenetix Inc is developing an automated system for rapid bacterial strain typing from complex samples.

The Resolution Microbial Genotyping System isolates and analyses DNA directly from an enriched biological sample without the need for a pure culture isolate and provides results in just five hours.

The Resolution System utilises Genome Sequence Scanning (GSS), a revolutionary sequence analysis technology capable of scanning DNA, one molecule at a time.

PathoGenetix is developing its first commercial product for use in food safety testing and foodborne outbreak investigations.

The Resolution System is the only bacterial identification system that

provides serotype and strain type information directly from a complex sample, in just five hours.

This dramatic reduction in time-to-answer enables faster traceback and source tracking of dangerous pathogens, which in turn can save money and lives.

The Resolution System requires only 15-20 minutes of hands-on time per batch of up to eight samples, and processes up to 40 samples in a 24 hour period. Strain discrimination is at least as good as pulsed field gel electrophoresis (PFGE), the gold standard for pathogen typing.

The automated Resolution System requires minimal training and ensures consistent results across operators and laboratories.

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Protect your customers, business and reputation

Effective environmental hygiene management is a critical part of reducing the risk of contamination in finished products, leading to improved quality, fewer batch rejections and lower risk of product recall.

The 3M Clean-Trace Hygiene Monitoring System helps to assess standards of hygiene and cleaning procedures by measuring the amount of adenosine tri-phosphate (ATP) in a sample.

The Clean-Trace system offers a rapid, simple and reliable solution to monitor biological contamination on

surfaces and in water in real time. When combined with the powerful 3M Clean-Trace Data Trending Software, quantitative analysis of surface and water hygiene is possible which allows changes to be tracked, reported and corrective action to be taken. The sensitivity and repeatability of the Clean-Trace hygiene system gives you confidence that the results provide a true picture of cleaning performance allowing you to take sound action that can help protect your customers, business and reputation.

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Secure your regular copy of **International Food Hygiene** by taking out a subscription see page 3 or email sw@positiveaction.co.uk

