Has real-time PCR become the ultimate solution for all-round detection?

The answer is "yes", according to **BIORON Diagnostics**, a German company that specialises in real-time polymerase chain reaction kits for infectious disease detection, cancer mutation diagnostics, and even food analysis.

In order to assure very reliable results, polymerase chain reaction (PCR) kits are produced with polymerases and master mixes that have been adapted to the specific requirements of BIORON's RealLine range of kits.

What makes the RealLine pathogen detection kits unique is the lyophilised ready reaction premix (RRP), a non-competitive internal control, the universal two-stage protocol for the amplification of all pathogens (containing DNA and RNA), and their excellent analytical performance, guaranteeing 100% sensitivity of 100 copies (genome-equivalents) per sample and the highest specificity.

> "A universal amplification protocol allows the kits to be used in parallel to allow an increased throughput of laboratory sources and faster analysis results."

The lyophilised RRP contains all the components required for performing PCR (polymerase, buffer, primers, dNTP) and is associated with a minimum of manipulations, including:

- simplified procedure and improved throughput of analysis
- minimised impact of the "human factor" for a reduced risk of contamination
- high stability of stored components
- consistently high amplification efficiency (100 ±10% throughout the entire shelf life)
- consistently high sensitivity
- storage of all components at the same temperature (2–8°C)
- transport at room temperature for up to ten days.

The only step required to run the reaction is the addition of a sample of eluted nucleic acid. A universal amplification protocol allows the kits to be used in parallel to allow an increased throughput of laboratory sources and faster analysis results. All RT-PCR stages can be done in a single tube and a possible simultaneous amplification of DNA and RNA.

Open systems are in demand

Labs do not want to be contractually bound to a supplier that can then dictate prices. BIORON answers this challenge by offering two formats and can therefore cater for the majority of real-time PCR devices on the market. This is possible because most real-time cyclers provide the channels FAM, ROX and HEX.

BIORON Diagnostics offers a unique range of kits for STIs including *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma* and *Ureaplasma* species and *Trichomonas*. For the detection of these parameters, a number of single and double-detection kits have been developed. For HPV, BIORON supplies different kits for screening and genotyping.

Meanwhile, the kit for *Mycobacterium tuberculosis* detects two gene targets, assuring that Asian strains are also to be found.

The full range of human herpes viruses is treated, as well as TORCH *Rubella*, *Toxoplasma*, and tick infections such as *Borrelia* and TBEV – all in real time.

New weapons in the fight against cancer

The detection of mutations in KRAS, BRAF and EGFR for an optimal treatment is topic on the majority of medical forums.

RealLine cancer mutation kits such as EGFR can detect 77 mutations and only 5% tumour cells are necessary. When it comes to the detection of the mutation V600R in the BRAF gene, this can even be reduced to 1% of tumour cells to generate a reliable result.

Successful detection of food content

The food industry celebrates many advances when it comes to processed food, but at the same time it gets increasingly difficult to know about the content of groceries. BIORON offers highly sensitive kits for the extraction and detection of unwanted components such as pork or horsemeat. ■

Further information
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