

# BactoReal® Kit

## *Listeria monocytogenes*



### BactoReal® Kit *Listeria monocytogenes*

Order no.	Reactions	Pathogen	Internal positive control
DHUB00853	50	FAM channel	Cy5 channel

#### Kit contents:

- Detection assay for *Listeria monocytogenes*
- Detection assay + target for internal DNA positive control (control of PCR amplification and DNA extraction)
- DNA reaction mix
- Nuclease-free water
- Positive control for *Listeria monocytogenes*



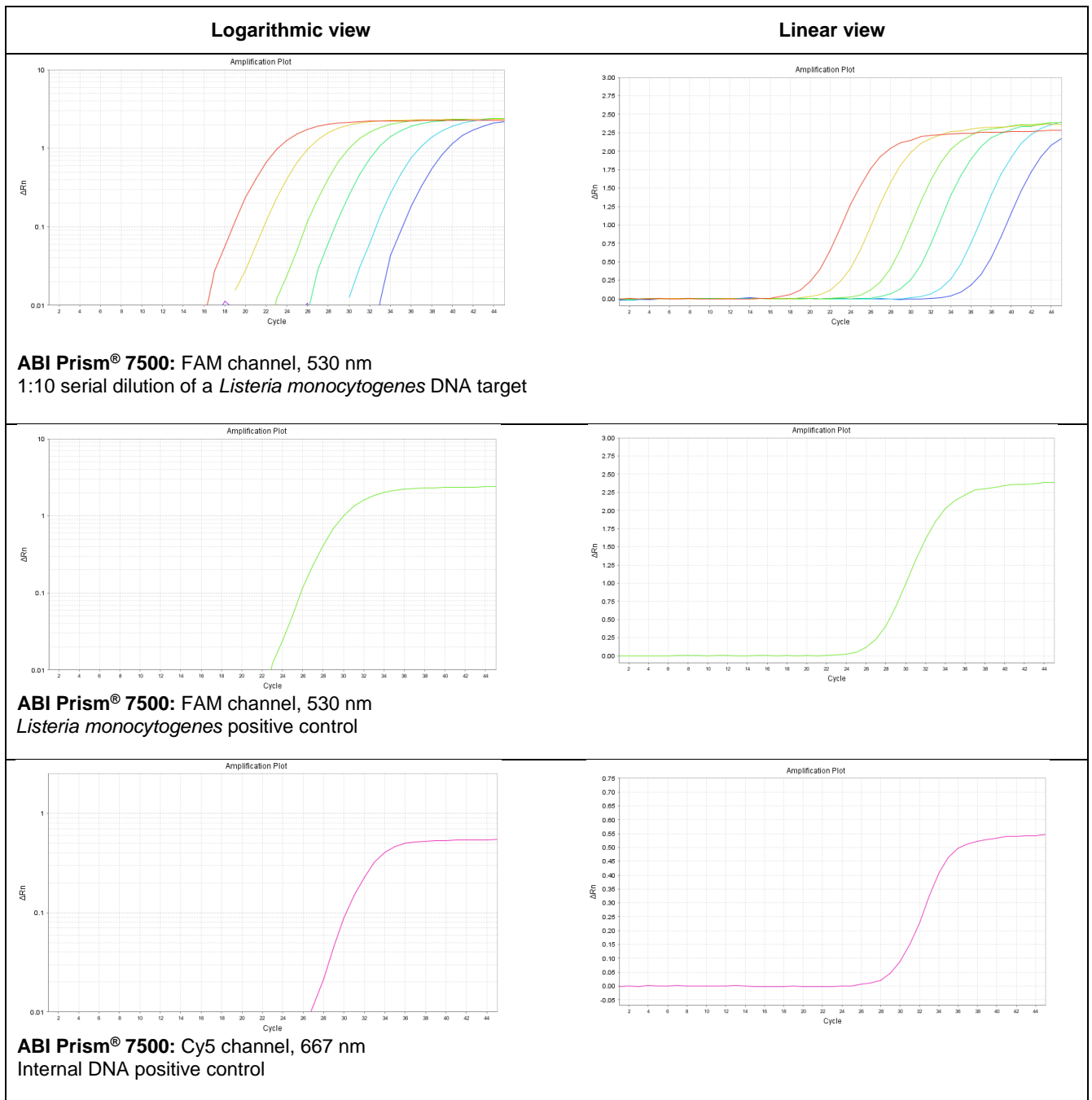
**Background:** *Listeria* are ubiquitously found in soil and water. Listeriosis is an infection caused by the consumption of contaminated food (milk, cheeses, ice cream, vegetables, sausages, meats and fish). Although there are other types of *Listeria* (*L. ivanovii*, *L. innocua*, *L. welshimeri*, *L. seeligeri* and *L. grayi*), the culprit pathogen for most listeriosis cases is *L. monocytogenes*. Gastrointestinal symptoms may remain the only symptoms or precede more severe clinical manifestations such as sepsis and meningitis. People at risk include the elderly population, immunosuppressed patients and foetuses of pregnant women. *L. monocytogenes* is a gram positive, facultative anaerobic, and facultative intracellular bacterium with an incubation time of at least seven days. It expresses a Beta hemolysin (*hlyA* gene) which causes destruction of red blood cells and has the ability to target other cells. The ability of *L. monocytogenes* to grow at temperatures as low as 0°C permits multiplication in refrigerated foods. *L. monocytogenes* is killed by pasteurization and cooking.

**Description:** BactoReal® Kit *Listeria monocytogenes* is an *in vitro* diagnostic test detecting DNA of the *hlyA* gene of *Listeria monocytogenes* using real-time PCR. This test allows the rapid and sensitive detection of DNA of *Listeria monocytogenes* from samples purified from liquor or aspirate samples (e.g. with the QIAamp DNA Mini Kit, Qiagen).

*Listeria monocytogenes* DNA is detected in FAM channel. The internal DNA positive control (DNA IPC) is detected in Cy5 channel and is used as DNA extraction as well as PCR inhibition control. The DNA IPC target is extracted with the sample.

**PCR-platforms:** This kit has been validated with Applied Biosystems® 7500 Fast Real-time PCR System (Thermo Fisher Scientific) and tested with LightCycler® 480 Instrument II (Roche) and Mx3005P® QPCR System (Agilent). It is compatible with real-time PCR instruments detecting and differentiating fluorescence in FAM and Cy5 channel.

**Specificity and sensitivity:** BactoReal® Kit *Listeria monocytogenes* is specific for *Listeria monocytogenes*. The limit of detection (LoD95 = smallest number of target DNA copies which can be detected in 95% of cases) is 6 copies/reaction. Diagnostic evaluation was performed with bacterial isolates and with clinical samples.



**Figure 1** Performance of BactoReal® Kit *Listeria monocytogenes*

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