

# BactoReal® Kit Leptospira spp. (16S rDNA)



For veterinary use only

## BactoReal® Kit *Leptospira* spp. (16S rDNA)

Order no.	Reactions	Pathogen	Internal positive control
DVEB00513	100	VIC/HEX channel	Cy5 channel
DVEB00553	50	VIC/HEX channel	Cy5 channel

### Kit contents:

- Detection assay for *Leptospira* spp.
- Detection assay for internal positive control (control of amplification)
- DNA reaction mix (contains uracil-N glycosylase, UNG)
- Positive control for *Leptospira*
- Water



**Background:** The spirochaetal *Leptospira* genus consists of pathogenic species (*L. interrogans*, *L. noguchii*, *L. weilii*, *L. kirschneri*, *L. alexanderi*, *L. borgpetersenii*, *L. santarosai*, *L. kmetyi*, *Leptospira* genomospecies 1), of intermediately pathogenic species (*L. inadai*, *L. fainei*, *L. broomii*, *L. licerasiae*, *L. wolffii*) and of non-pathogenic species (*L. biflexa*, *L. meyeri*, *L. wolbachii*, *Leptospira* genomospecies 3, 4 and 5). Members of *Leptospira* can also be grouped into serovars. Currently over 200 serovars are recognized in the genus *Leptospira* and a few serovars are found in more than one species of *Leptospira*. Non-pathogenic species are saprophytes and can grow outside the host animal, while pathogenic *Leptospira* species cause leptospirosis. They affect many mammalian species, including humans. Animals may become unapparent carriers, and shedding of leptospires, primarily in the urine, serves as a source of infection for other animals and humans. The clinical signs associated with leptospirosis are variable and depend on the infecting serovar and the susceptibility of the animal. Leptospires are present in the blood during the first 5 to 10 days after onset of the disease.

**Description:** BactoReal® Kit *Leptospira* spp. (16S rDNA) is based on the amplification and detection of the 16S rDNA gene of pathogenic and intermediately pathogenic *Leptospira* spp. using real-time PCR. It allows the rapid and sensitive detection of the 16S rDNA gene of *Leptospira* spp. from DNA samples purified from blood, urine or kidney tissue (e.g. with the QIAamp DNA Mini Kit).

**PCR-platforms:** BactoReal® Kit *Leptospira* spp. (16S rDNA) is developed and validated for the ABI PRISM® 7500 instrument (Life Technologies), LightCycler® 480 (Roche) and Mx3005P® QPCR System (Agilent), but is also suitable for other real-time PCR instruments.

**Sensitivity and specificity:** BactoReal® Kit *Leptospira* spp. (16S rDNA) has a sensitivity of 10 target copies/PCR reaction. The limit of detection (LoD95 = smallest number of copies of target RNA which can be detected in 95% of cases) is 20 target copies/reaction and was determined by several replicates around the detection limit. This kit is specific for pathogenic and intermediately pathogenic *Leptospira* species. It was tested with 13 pathogenic, 1 intermediately pathogenic and 3 non-pathogenic *Leptospira* serovars as well as 2 *Leptonema* species. All species were correctly analyzed.

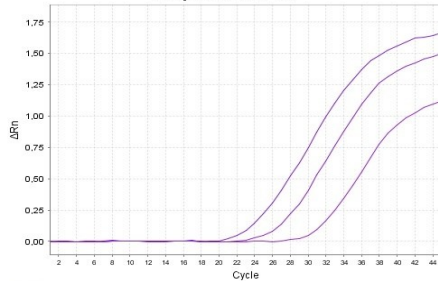
### References:

- Levett, P.N. 2001. Leptospirosis. Clin. Microbiol. Rev. 14:296–326.
- Chen J, Bergevin J, Kiss R, Walker G, Battistoni T, Lufburrow P, Lam H, Vinther A. 2012. Case Study: A novel bacterial contamination in cell culture production - *Leptospira licerasiae*. PDA J Pharm Sci Technol. 66:580-91.

## Detection of *Leptospira* spp.

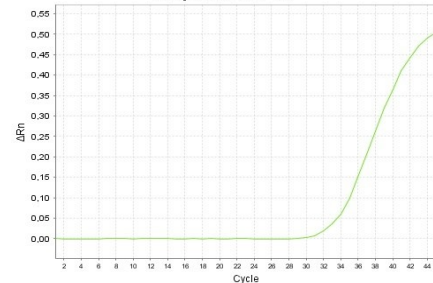
## Detection of internal positive control CR-3

**Amplification Plot**

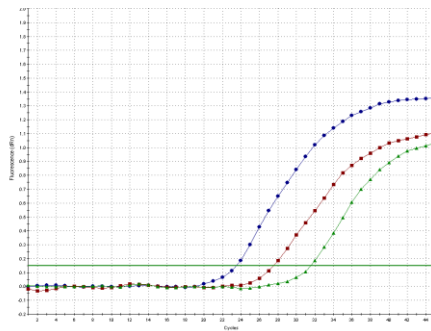


**ABI Prism® 7500:** VIC channel, 554 nm  
1:10 serial dilution of *Leptospira* DNA

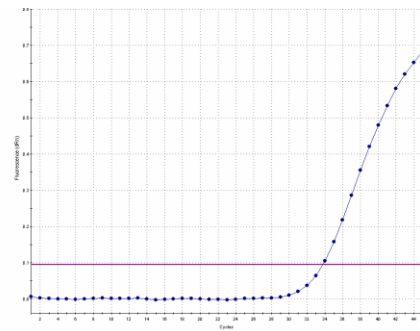
**Amplification Plot**



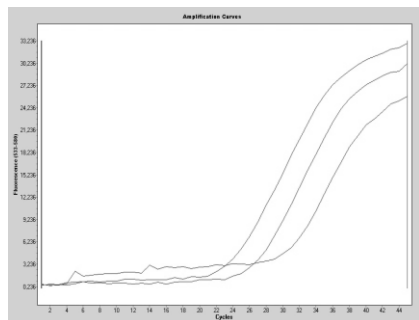
**ABI Prism® 7500:** Cy5 channel, 667 nm  
Internal positive control



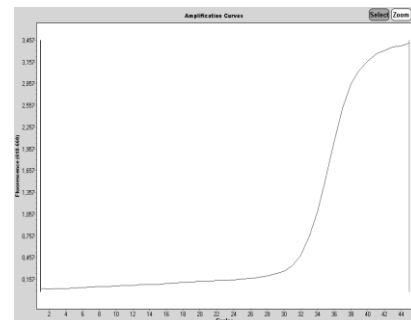
**Mx3005P®:** HEX channel  
1:10 serial dilution of *Leptospira* DNA



**Mx3005P®:** CY5 channel  
Internal positive control



**LightCycler® 480:** VIC / HEX / Yellow555 channel  
1:10 serial dilution of *Leptospira* DNA



**LightCycler® 480:** Cy5 channel  
Internal positive control

**BactoReal®, MycoReal, ParoReal and ViroReal® Kits run with the same thermal cycling conditions. RNA and DNA material can be analysed in one PCR run.**

For further information on our products please visit our homepage ([www.ingenetix.com](http://www.ingenetix.com))