

# BactoReal® Kit *Leptospira* spp. (LipL32)



For veterinary use only

## BactoReal® Kit *Leptospira* spp. (LipL32)

Order no.	Reactions	Pathogen	Internal positive control
DVEB00613	100	FAM channel	Cy5 channel
DVEB00653	50	FAM channel	Cy5 channel
DVEB00611	100	FAM channel	VIC/HEX channel
DVEB00651	50	FAM channel	VIC/HEX 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



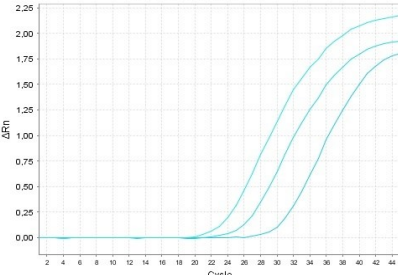
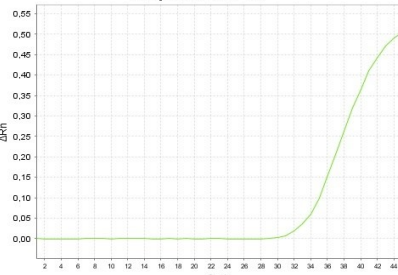
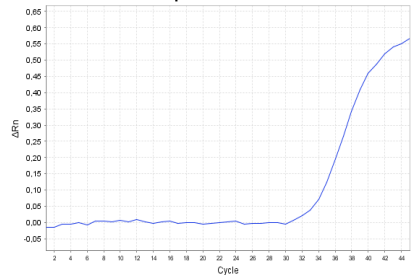
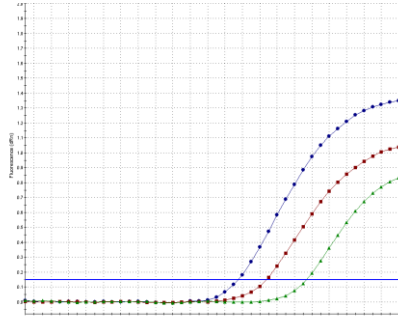
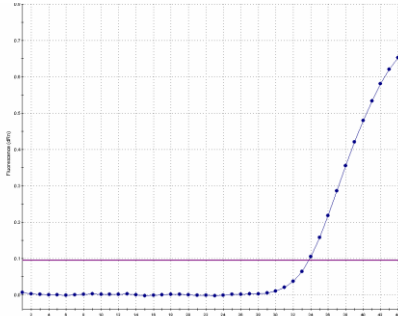
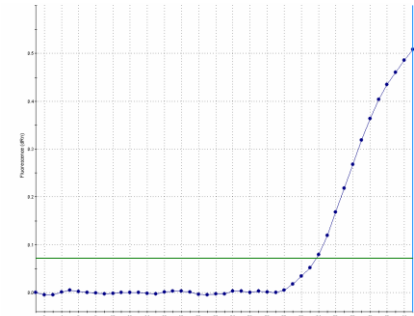
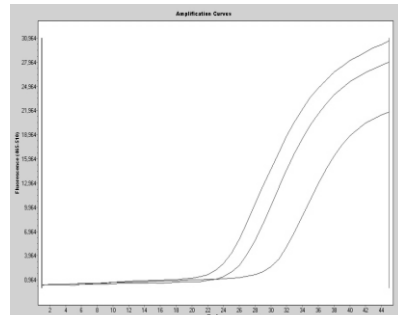
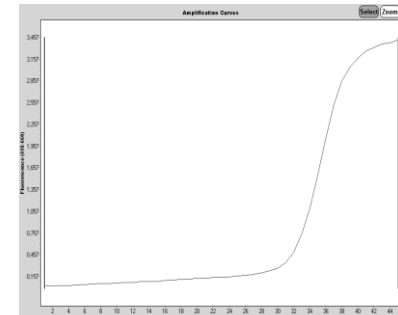
**Background:** The spirochaetal *Leptospira* genus consists of pathogenic species (*L. interrogans*, *L. noguchii*, *L. weilii*, *L. kirschneri*, *L. alexanderi*, *L. borgpetersenii*, *L. santarosai*, *L. kmetyi*, *Leptospira* genomospecies 1), of intermediately pathogenic species (*L. inadai*, *L. 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. Only pathogenic *Leptospira* species express an outer membrane lipoprotein encoded by the LipL32 gene.

**Description:** BactoReal® Kit *Leptospira* spp. (LipL32) is based on the amplification and detection of the LipL32 gene of pathogenic *Leptospira* spp. using real-time PCR. It allows the rapid and sensitive detection of the LipL32 gene of pathogenic *Leptospira* from DNA samples purified from blood, urine or kidney tissue (e.g. with the QIAamp DNA Mini Kit).

**PCR-platforms:** BactoReal® Kit *Leptospira* spp. (LipL32) 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. (LipL32) 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 18 target copies/reaction and was determined by several replicates around the detection limit. The kit is specific for pathogenic *Leptospira* species. It was tested on 13 pathogenic, 3 non-pathogenic *Leptospira* serovars and on 2 *Leptonema* species. It gave positive results with each of the pathogenic *Leptospira* serovars and was negative with each of the non-pathogenic *Leptospira* serovars and with the *Leptonema* species.

**References:** Haake DA, Chao G, Zuerner RL, Barnett JK, Barnett D, Mazel M, Matsunaga J, Levett PN, Bolin CA. 2000. The leptospiral major outer membrane protein LipL32 is a lipoprotein expressed during mammalian infection. *Infect. Immun.* 68: 2276–2285.

<p>Detection of <i>Leptospira</i> spp.</p>	<p>Detection of internal positive control CR-3</p>	<p>Detection of internal positive control CR-1</p>
<p><b>Amplification Plot</b></p> 	<p><b>Amplification Plot</b></p> 	<p><b>Amplification Plot</b></p> 
<p><b>ABI Prism® 7500:</b> FAM channel, 530 nm 1:10 serial dilution of <i>Leptospira</i> DNA</p>	<p><b>ABI Prism® 7500:</b> Cy5 channel, 667 nm Internal positive control</p>	<p><b>ABI Prism® 7500:</b> VIC channel, 554 nm Internal positive control</p>
		
<p><b>Mx3005P®:</b> FAM channel 1:10 serial dilution of <i>Leptospira</i> DNA</p>	<p><b>Mx3005P®:</b> CY5 channel Internal positive control</p>	<p><b>Mx3005P®:</b> HEX channel Internal positive control</p>
<p><b>Amplification Curves</b></p> 	<p><b>Amplification Curves</b></p> 	
<p><b>LightCycler® 480:</b> FAM channel 1:10 serial dilution of <i>Leptospira</i> DNA</p>	<p><b>LightCycler® 480:</b> Cy5 channel Internal positive control</p>	

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

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