

**PCR-/NAT *Borrelia burgdorferi*  
 (RV 535) November 2015**



**Tabelle 1: Probenzusammensetzung und erwartetes Ergebnis.**

*Sample composition and expected results.*

	<i>Erwartet / expected</i>		<i>Probenzusammensetzung / Sample composition</i>
1525351	<b>+</b>	<b>61</b>	<i>B. burgdorferi sensu stricto</i> (~ 1x10 <sup>3</sup> organisms/mL)
1525352	<b>+++</b>	<b>61</b>	<i>Borrelia garinii</i> OspA Typ8 (~ 1x10 <sup>5</sup> organisms/mL)
1525353	<b>++</b>	<b>61</b>	<i>B. burgdorferi sensu stricto</i> (~ 1x10 <sup>4</sup> organisms/mL)
1525354	<b>+</b>	<b>61</b>	<i>B. burgdorferi sensu stricto</i> (~ 1x10 <sup>3</sup> organisms/mL)

**Tabelle 2: Häufigkeit der Mitteilung verschiedener Befunde.**

*Absolute numbers of reported individual results.*

<i>n = 111</i>	<i>Probennummer (Sample no.)</i>					<i>Inhibition</i>			
	<b>1525351</b>	<b>1525352</b>	<b>1525353</b>	<b>1525354</b>		<b>1525351</b>	<b>1525352</b>	<b>1525353</b>	<b>1525354</b>
<b>Befund</b> <i>Result</i>									
<b>Positiv</b>	<b>96</b>	<b>110</b>	<b>104</b>	<b>93</b>	n.d.	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Negativ</b>	<b>15</b>	<b>1</b>	<b>7<sup>2)</sup></b>	<b>17<sup>1)</sup></b>	nein <i>no</i>	<b>111</b>	<b>111</b>	<b>111</b>	<b>110</b>
<b>Fraglich</b> <i>Questionable</i>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	ja <i>yes</i>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Tabelle 3: Häufigkeit richtig positiver und richtig negativer NAT-Befunde bei Anwenden verschiedener Methoden.**

*Absolute numbers and relative frequency of reported true positive and true negative results among various NAT methods.*

<b>NAT-Methode</b> [Code] (total number *)	<b>NAT richtig positiv</b> <i>True positive results</i>			<b>NAT richtig negativ</b> <i>True negative results</i>		
	<b>Absolut</b> <i>Absolute</i>	<b>Relativ</b> <i>Relative</i>	<b>%</b>	<b>Absolut</b> <i>Absolute</i>	<b>Relativ</b> <i>Relative</i>	<b>%</b>
artus <i>Borrelia</i> LC Kit [20] (n = 23)	<b>92</b>	92 / 92	<b>100</b>	<b>0</b>	0 / 0	<b>0</b>
Demeditec GenFlow [21] (n = 3 !)	<b>4</b>	4 / 12	<b>33</b>	<b>0</b>	0 / 0	<b>0</b>
LightMix <i>Borrelia</i> [22] (n = 8)	<b>27</b>	27 / 31 <sup>§</sup>	<b>87</b>	<b>0</b>	0 / 0	<b>0</b>
Other/commercial tests [27] (n = 27)	<b>100</b>	100 / 108	<b>93</b>	<b>0</b>	0 / 0	<b>0</b>
<b>In house PCR assay</b> [28] (n = 56)	<b>204</b>	204 / 224	<b>91</b>	<b>0</b>	0 / 0	<b>0</b>

<sup>§</sup> Due to reporting questionable results, the number of true results (denominator in the „relative“ column) has been reduced.

\* Durch Mehrfachnennung oder fehlende Angabe kann die absolute Zahl der Ergebnisse (Tab. 2) von der Anzahl der Teilnehmer abweichen.  
*Due to reporting results of multiple assay systems or missing specifications, the effective numbers are not correlating with the number of participants*

**Comments:** 1) As sample #1525354 contained a very low number of *Borrelia burgdorferi sensu stricto* organisms, negative PCR results were not rated “false negative”, but the participants may consider improving the analytical sensitivity of the corresponding PCR assays.

2) Six from these 7 labs were not able to detect any of the *B. burgdorferi* positive samples !!