

Plasmid Containing 18S Ribosomal RNA Gene Fragment from *Babesia bovis*

Catalog No. NR-28919

Product Description: A 565 base pair fragment of the small subunit ribosomal RNA gene from *Babesia bovis* (*B. bovis*) was amplified by PCR and cloned into vector pPCR-Script Amp SK(+) (Agilent Technologies). The resulting plasmid, NR-28919, may be used in PCR assays for the detection of *B. bovis* in cattle ticks or cattle blood. The plasmid was produced in One Shot[®] TOP10 chemically competent *Escherichia coli* (Invitrogen[™]) and extracted using a QIAGEN[®] EndoFree[®] Plasmid Maxi Kit.

Lot¹: 61330033

Manufacturing Date: 22MAR2013

TEST	SPECIFICATIONS	RESULTS
Confirmation of Insert by PCR ²	~ 570 base pair amplicon	~ 570 base pair amplicon
Confirmation of Insert by Sequencing (Figure 1)	Consistent with <i>B. bovis</i> 18S ribosomal RNA gene	Consistent with <i>B. bovis</i> 18S ribosomal RNA gene ³
DNA Content by PicoGreen [®] Measurement	0.7 µg to 1.5 µg per vial	0.8 µg per vial
OD ₂₆₀ /OD ₂₈₀ Ratio	1.7 to 2.1	1.8
Bacterial Transformability (Post-Vial) ⁴	≥ 100 colonies	≥ 100 colonies

¹Produced in One Shot[®] TOP10 chemically competent *Escherichia coli* (Invitrogen[™]) and extracted using a QIAGEN[®] EndoFree[®] Plasmid Maxi Kit.

²PCR was performed with primers designed to amplify 16 bases upstream and 17 bases downstream of the 18S ribosomal RNA region. PCR primers used for amplification were KB-16 forward primer 5' CATCAGCTTGACGGTAGGG 3' and KB-17 reverse primer 5' GTCCTTGGCAAATGCTTTC 3'. Conditions used for PCR are available upon request.

³GenBank: HQ264111

⁴One Shot[®] TOP10 *Escherichia coli* were transformed with 13 ng of plasmid DNA.

Figure 1. Plasmid 18S rRNA Insert Sequence

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1      TCATCAGCTTGACGGTAGGGTATTGGCCTCCCAGGCATCGACGGGTAACGGGGAATTAG 60
61     GGTTTCGATTCCGGAGAGGGAGCCTGCGAGACGGCTACCACATCTAAGGAAGGCAGCAGGC 120
121    GCGCAAATTACCCAATCCTGACACAGGGAGGTAGTGACAAGAAATACCAATACGGGGCTA 180
181    CTGCTCTGTAATTGGCATGGGGGCGACCTTCACCCTCGCCCAGTACCCATTGGAGGGCA 240
241    AGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCCAATAGCGTATATTAACCTTGTGCA 300
301    GTTAAAAAGCTCGTAGTTGAATCTCACGTCCGCCCTAGTGTTTTCCACTACGCGGACGCC 360
361    TCGTTACTTTGAGAAAATTAGAGTGTTTCAAGCAGGTTTCGCCTGTATAATTGAGCATGG 420
421    AATAACCTTGTATGACCCTGTCGTACCGTTGGTTGACTTTGGGTAATGGTTAATAGGAAC 480
481    GGTTGGGGGCATTTCGTACTCGACTGTCAGAGGTGAAATTCCTTAGATTTGTCGATGACGCA 540
541    CGACTGCGAAAGCATTTGCCAAGGACA 567
    
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Date: 19 MAY 2014

Signature:



Title: Technical Manager, BEI Authentication or designee

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