



Article(supplementary)

Molecular Detection of *Rickettsia* Spp. and *Coxiella Burnetii* in Cattle, Water Buffalo, and *Rhipicephalus (Boophilus) Microplus* Ticks in Luzon Island of the Philippines

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Table S1. Primers used for the amplification of control genes *actin* and *mt-rrs* in blood and tick samples, respectively, and detection of *Rickettsia* and *Coxiella burnetii*.

Organism	Target gene	Primer Name	Sequence (5' → 3')	Expected size (bp)	References
Ruminant (Blood)	<i>actin</i>	<i>actin</i> forward	CGCACCACCGGCATCG TGAT	227	[35]
		<i>actin</i> reverse	TCCAGGGCCACGTAGC AGAG		
Ticks	<i>mt-rrs</i>	<i>mt-rrs</i> forward	CTGCTCAATGATTTTTT AAATTGCTGTGG	560	[36]
		<i>mt-rrs</i> forward	CCGGTCTGAACTCAGA TCAAGTA		
		CS2d	ATGACCAATGAAAATA ATAAT		
<i>Rickettsia</i>	<i>gltA</i>	CSEndr	CTTATACTCTCTATGTA CA	1,250	[37]
		RpCs877p	GGGGCCTGCTCACGG CGG		

		RpCs1258n	ATTGCAAAAAGTACAG TGAAC		
<i>Coxiella burnetti</i>	<i>com1</i>	OMP1	AGTAGAAGCATCCCAA GCATTG	501	[38]
		OMP2	TGCCTGCTAGCTGTAA CGATTG		
		OMP3	GAAGCGCAACAAGAA GAACAC	438	
		OMP4	TTGGAAGTTATCACGC AGTTG		

Table S2. PCR conditions for the amplification of target fragments of control genes *actin* and *mt-rrs* in blood and tick samples, respectively, and the *gltA* gene of *Rickettsia* and *com1* gene of *C. burnetti*.

Target Gene	PCR Condition
<i>actin</i>	$\frac{94^{\circ}\text{C}}{5\text{ min}} \rightarrow \left[\frac{94^{\circ}\text{C}}{30\text{ s}} - \frac{65^{\circ}\text{C}}{30\text{ s}} - \frac{72^{\circ}\text{C}}{30\text{ s}} \right] 35\text{x} \rightarrow \frac{72^{\circ}\text{C}}{5\text{ min}} \rightarrow 10^{\circ}\text{C } \infty$
<i>mt-rrs</i>	$\frac{95^{\circ}\text{C}}{5\text{ min}} \rightarrow \left[\frac{94^{\circ}\text{C}}{30\text{ s}} - \frac{56^{\circ}\text{C}}{30\text{ s}} - \frac{72^{\circ}\text{C}}{30\text{ s}} \right] 30\text{x} \rightarrow \frac{72^{\circ}\text{C}}{5\text{ min}} \rightarrow 10^{\circ}\text{C } \infty$
<i>gltA</i>	1 st round: $\frac{95^{\circ}\text{C}}{10\text{ min}} \rightarrow \left[\frac{94^{\circ}\text{C}}{30\text{ s}} - \frac{52^{\circ}\text{C}}{30\text{ s}} - \frac{72^{\circ}\text{C}}{1.5\text{ min}} \right] 30\text{x} \rightarrow \frac{72^{\circ}\text{C}}{5\text{ min}} \rightarrow 10^{\circ}\text{C } \infty$
	2 nd round: $\frac{95^{\circ}\text{C}}{10\text{ min}} \rightarrow \left[\frac{94^{\circ}\text{C}}{30\text{ s}} - \frac{52^{\circ}\text{C}}{30\text{ s}} - \frac{72^{\circ}\text{C}}{30\text{ s}} \right] 30\text{x} \rightarrow \frac{72^{\circ}\text{C}}{5\text{ min}} \rightarrow 10^{\circ}\text{C } \infty$
<i>com1</i>	1 st round: $\frac{94^{\circ}\text{C}}{5\text{ min}} \rightarrow \left[\frac{94^{\circ}\text{C}}{1\text{ min}} - \frac{54^{\circ}\text{C}}{1\text{ min}} - \frac{72^{\circ}\text{C}}{1\text{ min}} \right] 36\text{x} \rightarrow \frac{72^{\circ}\text{C}}{5\text{ min}} \rightarrow 10^{\circ}\text{C } \infty$
	2 nd round: $\frac{94^{\circ}\text{C}}{3\text{ min}} \rightarrow \left[\frac{94^{\circ}\text{C}}{30\text{ s}} - \frac{54^{\circ}\text{C}}{1\text{ min}} - \frac{72^{\circ}\text{C}}{30\text{ s}} \right] 36\text{x} \rightarrow \frac{72^{\circ}\text{C}}{5\text{ min}} \rightarrow 10^{\circ}\text{C } \infty$