**Supplementary Table S1**: Primers used for the detection of tick-borne pathogens in ticks from native Korean goats (*Capra hircus coreanae*) in the present study.

| Organism                          | Gene          | Primer          | Sequence 5’ to 3’                             | Size (bp) | Amplification condition                                                                 | Reference                                      |
|-----------------------------------|---------------|-----------------|-----------------------------------------------|-----------|----------------------------------------------------------------------------------------|-----------------------------------------------|
| Invertebrate                      | Mitochondrial | LCO1490         | GGTCACAACAAATCATAAGATATTGG                    | 710       | 95°C/5 min; 35 cycles: 95°C/60 s, 40°C/60 s, 72°C/30 s/72°C/10 min                     | Folmer et al., 1994                           |
|                                   | cytochrome c  | HC02198         | TAAACTTCAGGGTGACCAAAAAATCA                    |           | 95°C/5 min; 35 cycles: 95°C/60 s, 40°C/60 s, 72°C/30 s/72°C/10 min                     |                                               |
|                                   | oxidase subunit I |               |                                               |           | 95°C/5 min; 35 cycles: 95°C/60 s, 40°C/60 s, 72°C/30 s/72°C/10 min                     |                                               |
|                                   |               |                 |                                               |           | 95°C/5 min; 45 cycles: 95°C/30 s, 59°C/30 s, 72°C/30 s/72°C/10 min                     | Commercial AccuPower Rickettsiales 3-Plex PCR Kit (Bioneer) |
| Anaplasma spp.                    | 16S rRNA      | *               |                                               | 429       | 95°C/5 min; 45 cycles: 95°C/30 s, 59°C/30 s, 72°C/30 s/72°C/10 min                     | Commercial AccuPower Rickettsiales 3-Plex PCR Kit (Bioneer) |
| Ehrlichia spp.                    | 16S rRNA      | *               |                                               | 340       | 95°C/5 min; 45 cycles: 95°C/30 s, 59°C/30 s, 72°C/30 s/72°C/10 min                     | Commercial AccuPower Rickettsiales 3-Plex PCR Kit (Bioneer) |
| Rickettsia spp.                   | 16S rRNA      | *               |                                               | 252       | 95°C/5 min; 45 cycles: 95°C/30 s, 59°C/30 s, 72°C/30 s/72°C/10 min                     | Commercial AccuPower Rickettsiales 3-Plex PCR Kit (Bioneer) |
| Rickettsia spp.                   | gltA          | Rsfg877         | GGGGGCCTGCTCACGCGG                            | 380       | 95°C/10 min; 35 cycles: 95°C/60 s, 51°C/60 s, 72°C/60 s/72°C/10 min                   | Reis et al., 2011                             |
|                                   |               | Rsfg1258        | ATTGAAAAAGATACAGTGAAAC                       |           | 95°C/10 min; 35 cycles: 95°C/60 s, 51°C/60 s, 72°C/60 s/72°C/10 min                   |                                               |
| Coxiella spp.                     | 16S rRNA      | Cox16SF1        | CGTAGGAATCTACCTTTRTAGWGG                     | 1321–1429 | 93°C/3 min; 30 cycles: 93°C/30 s, 56°C/30 s, 72°C/60 s/72°C/5 min                      | Seo et al., 2016                              |
|                                   |               | Cox16SR2        | GCCTACCCCGTCTCTGATAATT                      |           | 93°C/3 min; 30 cycles: 93°C/30 s, 56°C/30 s, 72°C/60 s/72°C/5 min                      |                                               |
|                                   |               | Cox16SF2        | TGAGAACTAGCTTTGGRRAGT                       | 624–627   | 93°C/3 min; 30 cycles: 93°C/30 s, 56°C/30 s, 72°C/60 s/72°C/5 min                      |                                               |
| Pathogen                                    | Primer Sets         | Sequence                          | Annealing Temperature | Time/Conditions                  |
|---------------------------------------------|---------------------|------------------------------------|------------------------|----------------------------------|
| **Bartonella spp.**                         | QHVE-OF             | TTCAGATGATGATCCCAAGC               | 94°C/10 min; 35 cycles: 94°C/60 s, 55°C/60 s, 72°C/120 s; 72°C/5 min | Ko et al., 2013 |
|                                             | QHVE-OR             | AACATGTCTGAATATATCTTC              |                        |                                  |
|                                             | QHVE-IF             | CCGGAGGGCTTGAGCTCAG                |                        |                                  |
|                                             | QHVE-IR             | CACAATTTCAATAGAAC                  |                        |                                  |
| **Severe fever with thrombocytopenia syndrome virus** | NP-2F               | CATCATTGTCTTGGCCCTGA               | 50°C/30 min; 95°C/15 min; 40 cycles: 95°C/20 s, 52°C/40 s, 72°C/30 s; 72°C/5 min | Yoshikawa et al., 2014 |
|                                             | NP-2R               | AGAAGACAGAGTTCAAGCA                |                        |                                  |
|                                             | N2F                 | AAYAAGATCGTCAAGGAGCATCA            | 25 cycles: 94°C/20 s, 55°C/40 s, 72°C/30 s |                                  |
|                                             | N2R                 | TAGTCTTGGTGAAGGCATCTT              |                        |                                  |
| **Babesia spp. and Theileria spp.**         | 18S rRNA            | *                                  | 95°C/5 min; 35 cycles: 95°C/30 s, 59°C/30 s, 72°C/30 s; 72°C/5 min | Commercial AccuPower® Babesia & Theileria PCR Kit (Bioneer) |
| **Babesia spp. and Theileria spp.**         | 18S rRNA            | *                                  | 95°C/5 min; 40 cycles: 94°C/30 s, 54°C/30 s, 72°C/40 s; 72°C/5 min | Casati et al., 2006 |

*Commercial PCR kits were used for the detection of these pathogens.