

Table S2. Genus- and species-specific RLB oligonucleotide probes used in this study

Pathogen	Sequence (5'-3')	Reference
<i>Ehrlichia/Anaplasma</i> genus-specific	GGG GGA AAG ATT TAT CGC TA	Bekker <i>et al.</i> , 2002
<i>Anaplasma bovis</i>	GTA GCT TGC TAT GR [†] G AAC A	Bekker <i>et al.</i> , 2002
<i>Anaplasma centrale</i>	TCG AAC GGA CCA TAC GC	Bekker <i>et al.</i> , 2002
<i>Anaplasma marginale</i>	GAC CGT ATA CGC AGC TTG	Bekker <i>et al.</i> , 2002
<i>Anaplasma phagocytophilum</i>	TTG CTA TAA AGA ATA ATT AGT GG	Bekker <i>et al.</i> , 2002
<i>Anaplasma</i> sp. Omatjenne	CGG ATT TTT ATC ATA GCT TGC	Bekker <i>et al.</i> , 2002
<i>Ehrlichia canis</i>	TCT GGC TAT AGG AAA TTG TTA	Schouls <i>et al.</i> , 1999
<i>Ehrlichia chaffeensis</i>	ACC TTT TGG TTA TAA ATA ATT GTT	Schouls <i>et al.</i> , 1999
<i>Ehrlichia ruminantium</i>	AGT ATC TGT TAG TGG CAG	Bekker <i>et al.</i> , 2002
<i>Theileria/Babesia</i> genus-specific	TAA TGG TTA ATA GGA R [‡] CR [‡] GTT G	Gubbels <i>et al.</i> , 1999
<i>Babesia</i> 1 genus-specific	ATT AGA GTG CTC AAA GCA GGC	Nijhof (unpublished)
<i>Babesia</i> 2 genus-specific	ACT AGA GTG TTT CAA ACA GGC	Nijhof (unpublished)
<i>Babesia bicornis</i>	TTG GTA AAT CGC CTT GGT C	Nijhof <i>et al.</i> , 2003
<i>Babesia bigemina</i>	GTA GTT GTA TTT CAG CCT CG	Stoltz <i>et al.</i> , 2020
<i>Babesia bovis</i>	CAG GTT TCG CCT GTA TAA TTG AG	Gubbels <i>et al.</i> , 1999
<i>Babesia caballi</i>	GTG TTT ATC GCA GAC TTT TGT	Butler <i>et al.</i> , 2008
<i>Babesia canis canis</i>	TGC GTT GAC GGT TTG AC	Matjila <i>et al.</i> , 2004
<i>Babesia canis rossi</i>	CGG TTT GTT GCC TTT GTG	Matjila <i>et al.</i> , 2004
<i>Babesia canis vogeli</i>	AGC GTG TTC GAG TTT GCC	Matjila <i>et al.</i> , 2004
<i>Babesia divergens</i>	ACT R [†] AT GTC GAG ATT GCA C	Nijhof <i>et al.</i> , 2003
<i>Babesia felis</i>	TTA TGC GTT TTC CGA CTG GC	Bosman, Venter and Penzhorn, 2007
<i>Babesia gibsoni</i>	TAC TTG CCT TGT CTG GTT T	Yisaschar-Mekuzas <i>et al.</i> , 2013
<i>Babesia leo</i>	TTA TGC TTT TCC GAC TGG C	Bosman, Venter and Penzhorn, 2007
<i>Babesia major</i>	TCC GAC TTT GGT TGG TGT	Georges <i>et al.</i> , 2001
<i>Babesia microti</i>	GR [‡] C TTG GCA TCW [‡] TCT GGA	Nijhof <i>et al.</i> , 2003
<i>Babesia occultans</i>	CCT CTT TTG GCC CAT CTC G	He <i>et al.</i> , 2012
<i>Babesia</i> sp. (sable)	GCG TTG ACT TTG TGT CTT TAG C	Oosthuizen <i>et al.</i> , 2008
<i>Theileria</i> genus-specific	ATT AGA GTG TTT CAA GCA GAC	Nijhof (unpublished)
<i>Theileria annae</i>	CCG AAC GTA ATT TTA TTG ATT G	Yisaschar-Mekuzas <i>et al.</i> , 2013
<i>Theileria annulata</i>	CCT CTG GGG TCT GTG CA	Georges <i>et al.</i> , 2001
<i>Theileria bicornis</i>	GCG TTG TGG CTT TTT TCT G	Nijhof <i>et al.</i> , 2003
<i>Theileria buffeli</i>	GGC TTA TTT CGG W [‡] TT GAT TTT	Gubbels <i>et al.</i> , 2000
<i>Theileria equi</i>	TTC GTT GAC TGC GYT TGG	Butler <i>et al.</i> , 2008
<i>Theileria lestoquardi</i>	CTT GTG TCC CTC CGG G	Schnittger <i>et al.</i> , 2004
<i>Theileria mutans</i>	CTT GCG TCT CCG AAT GTT	Gubbels <i>et al.</i> , 1999
<i>Theileria ovis</i>	TGC GCG CGG CCT TTG CGT T	Bekker <i>et al.</i> , 2002
<i>Theileria parva</i>	GGA CGG AGT TCG CTT TG	Nijhof <i>et al.</i> , 2003
<i>Theileria separata</i>	GGT CGT GGT TTT CCT CGT	Schnittger <i>et al.</i> , 2004
<i>Theileria</i> sp. (buffalo)	CAG ACG GAG TTT ACT TTG T	Oura <i>et al.</i> , 2004
<i>Theileria</i> sp. (kudu)	CTG CAT TGT TTC TTT CCT TTG	Nijhof <i>et al.</i> , 2005
<i>Theileria</i> sp. (sable)	GCT GCA TTG CCT TTT CTC C	Nijhof <i>et al.</i> , 2005
<i>Theileria taurotragi</i>	TCT TGG CAC GTG GCT TTT	Gubbels <i>et al.</i> , 1999
<i>Theileria velifera</i>	CCT ATT CTC CTT TAC GAG T	Gubbels <i>et al.</i> , 1999

[†] The degenerate position R denotes either A or G

[‡] The degenerate position W denotes either A or T

REFERENCES

- Butler CM, Nijhof AM, Jongejan F, Van Der Kolk JH. *Anaplasma phagocytophilum* infection in horses in the Netherlands. *Vet Rec.* (2008) 162:216–8. doi: 10.1136/vr.162.7.216
- Oosthuizen MC, Zweygarth E, Collins NE, Troskie M, Penzhorn BL. Identification of a novel *Babesia* sp. from a sable antelope (*Hippotragus niger* Harris, 1838). *J Clin Microbiol.* (2008) 46:2247–51. doi: 10.1128/JCM.00167-08
- Yisaschar-Mekuzas Y, Jaffe CL, Pastor J, Cardoso L, Baneth G. Identification of *Babesia* species infecting dogs using reverse line blot hybridization for six canine piroplasms, and evaluation of co-infection by other vector-borne pathogens. *Vet Parasitol.* (2013) 191:367–73. doi: 10.1016/j.vetpar.2012.09.002
- Oura CAL, Bishop RP, Wampande EM, Lubega GW, Tait A. Application of a reverse line blot assay to the study of haemoparasites in cattle in Uganda. *Int J Parasitol.* (2004) 34:603–13. doi: 10.1016/j.ijpara.2003.12.012
- Matjila PT, Penzhorn BL, Bekker CPJ, Nijhof AM, Jongejan F. Confirmation of occurrence of *Babesia canis vogeli* in domestic dogs in South Africa. *Vet Parasitol.* (2004) 122:119–25. doi: 10.1016/j.vetpar.2004.03.019
- Bekker CP, de Vos S, Taoufik A, Sparagano OA, Jongejan F. Simultaneous detection of *Anaplasma* and *Ehrlichia* species in ruminants and detection of *Ehrlichia ruminantium* in *Amblyomma variegatum* ticks by reverse line blot hybridization. *Vet Microbiol.* (2002) 89:223–38. doi: 10.1016/S0378-1135(02)00179-7
- Gubbels MJ, Hong Y, Van Der Weide M, Qi B, Nijman IJ, Guangyuan L, et al. Molecular characterisation of the *Theileria buffeli/orientalis* group. *Int J Parasitol.* (2000) 30:943–52. doi: 10.1016/S0020-7519(00)00074-6
- Stoltz H, Byaruahanga C, Troskie M, Makgabo M, Oosthuizen MC, Collins NE, et al. Improved detection of *Babesia bigemina* from various geographical areas in Africa using quantitative PCR and reverse line blot hybridisation. *Ticks Tick Born Dis.* (2020) 11:101415. doi: 10.1016/j.ttbdis.2020.101415
- Georges K, Loria GR, Riili S, Greco A, Caracappa S, Jongejan F, et al. Detection of haemoparasites in cattle by reverse line blot hybridisation with a note on the distribution of ticks in Sicily. *Vet Parasitol.* (2001) 99:273–86. doi: 10.1016/S0304-4017(01)00488-5
- Bosman AM, Venter EH, Penzhorn BL. Occurrence of *Babesia felis* and *Babesia leo* in various wild felid species and domestic cats in Southern Africa, based on reverse line blot analysis. *Vet Parasitol.* (2007) 144:33–8. doi: 10.1016/j.vetpar.2006.09.025
- Schouls LM, Van De Pol I, Rijpkema SGT, Schot CS. Detection and identification of *Ehrlichia*, *Borrelia burgdorferi* sensu lato, and *Bartonella* species in Dutch *Ixodes ricinus* ticks. *J Clin Microbiol.* (1999) 37:2215–22. doi: 10.1128/JCM.37.7.2215-2222.1999
- Schnittger L, Yin H, Qi B, Gubbels MJ, Beyer D, Niemann S. Simultaneous detection and differentiation of *Theileria* and *Babesia* parasites infecting small ruminants by reverse line blotting. *Parasitol Res.* (2004) 92:189–96. doi: 10.1007/s00436-003-0980-9