Table 1: Primers and probes targeting mammalian retrotransposons for bloodmeal identification in ticks

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| --- | --- | --- | --- | --- | --- | --- |
| **Host Targeted** | **SINE family** | **Primer name** | **Fluorophore** | **Sequence of primers and probes** | **Sensitivityd** | **Host-specificitye** |
| Multiplex 1 | |  |  |  |  |  |
| Mousea | B1 | PlSINE-41F |  | GATCTCTGTGAGTTCGAGG | 10-9 ng/µl | *Peromyscus* |
|  |  | PlSINE-114R |  | GTTTCTCTGTGTAGCTTTGC |  |  |
|  |  | PlSINE-66P | FAM | TGGGCTACCAAGTGAGCTCCAGG |  |  |
| Rabbitb | C48 | RabbSINE-131F-AG |  | ggaaggcagtggaggat | 10-9 ng/µl | *Lagomorpha* |
|  |  | RabbSINE-196R-TGG |  | ggtgcttcctcctggtct |  |  |
|  |  | RabbSINE-167P | Cy5 | GGGCCCTGCACCCCATGG |  |  |
| Voleb | B2 | MicrB2SINE-55F |  | TGAGTTCAATTCCCAGCAAC | 10-7 ng/µl | *Arvoclinae*c |
|  |  | MicrB2SINE-160R |  | TGTATACAATATTCTGTCTGTGTG |  |  |
|  |  | MicrB2SINE-160RCA |  | TGTATACAATATTCTGTCTGCATG |  |  |
|  |  | MicroB2SINE-113P | HEX | GCCCTCTTCTGGCCTGCAGA |  |  |
| Multiplex 2 | |  |  |  |  |  |
| Shrewb | SA\_Ba-325L16 | SorexSINE-164F |  | GATTCCCAGCATCCCATATG | 10-8 ng/µl | *Soricidae* |
|  |  | SorexSINE-235rmod |  | RTTACTCCTGGCTCTGCA |  |  |
|  |  | SorexSINE-185PCA | HEX | GTCCCCCAAGCACCGCCAGG |  |  |
| Deer | Unknown | WTDrep10-167F |  | GATCTGTTTCACCCTAGATAAT | 10-8 ng/µl | *Odocoileus* |
|  |  | WTDrep10-245R |  | CTGTGGGAGAAGGCGAG |  |  |
|  |  | WTDrep10-200P | Cy5 | TCGATGCTGTTCTCTTGAAACATCCCA |  |  |
| Bird | CR1-E5a | CR1-E5a-1188F |  | cccagagaagttgtgg | See Table 2 | |
|  |  | CR1-E5a-1188FT |  | cccagagaagctgtgg |  |  |
|  |  | CR1-E5a-1290R |  | catgggcagggacacc |  |  |
|  |  | CR1-E5a-1234P | FAM | gccaggytggatggggc |  |  |
| Multiplex 3: | |  |  |  |  |  |
| Squirrel | CM55b | SqrlSINE-103F |  | ccctgtctct aaataaaata ca | 10-7 ng/µl | *Sciuridae* |
|  |  | SqrlSINE-183R |  | TACCAGGGATTGAACTCAG |  |  |
|  |  | SqrlSINE-132P | Cy5 | GGGCTAGGGATGTGGCTCAGTGG |  |  |
| Bird | CR1-AVIb | CR1AVI-23F |  | SAGGCCCTGGCACAGG | See Table 2 | |
|  |  | CR1AVI- 78R |  | CCTTGRACACTTCCAGGGAT |  |  |
|  |  | CR1AVI- 35P | FAM | GCCCAGAGMAGCTGTGGC |  |  |
| Single reaction | |  |  |  |  |  |
| Cat | SINEb | CatSINE-120F |  | CTTCGGATTCTGTGTCTCC | 10-7 ng/µl | *Felis* |
|  |  | CatSINE-192R |  | TATTTTTGGGACAGAGAGAGAC |  |  |
|  |  | CatSINE-146P MGB | FAM | TCTGMCCCTCCCCCGTT-MGB |  |  |
| apreviously published 10  bpreviously published 11  c These primers cross-react with *Peromyscus* at a concentration of 10-4ng/µl  d Sensitivity of each primer set was determined using serial dilutions of positive control DNA. Listed is the last dilution that tested positive.  e Host specificity for each primer set was determined by testing primers against a panel of positive control DNA from likely hosts that are common in New England forests at a dilution of 10-4ng/µl. | | | | | | |