

110.....20.....30.....40.....50.....60
U44942 1 -----
RACE13 1 -----ATCACTACTTGACAGATCGCGAT--TTAAAGTTTGTGGATAACGT
RACE4 1 GACTGGAGCACGAGGACACTCTCAGCCGTACTGCTAA--AGCTACCGGCGTCAGTGTCTGA
RACE69 1 -----
RACE24 1 -----ACAATTAGGTAATATGTCGTTGTGTCTATGCGTAGTGCAGAAAACA
RACE50 1 -----AGGTAGCATGTTCATTGTGTCTATGCGTAGTGCAGAAAACA
RACE85 1 -----
RACE45 1 -----
RACE67 1 -----
RACE35 1 -----

6170.....80.....90.....100.....110.....120
U44942 1 -----
RACE13 45 AATTTGAATTATTTTATATGACAGTCATGAATTCCTAATGTGTATCGATGGTGTGCGGTTTC
RACE4 59 GACAGTCACAGCTATATTAGTACTTAAAGAATTGGAAAAGACAGAATCTAAGAATGAACA
RACE69 1 -----
RACE24 47 AAATATTTAAATTAATTCGTGTCAAAAATGAATTCCTAAAGTTTATAAGTGGTGTGCAAGTAC
RACE50 41 AAATATTTAAATTAATTCGTGTCAAAAATGAATTCCTAAAGTTTATAAGTGGTGTGCAAGTAC
RACE85 1 -----
RACE45 1 -----AATGGAGCACGAG
RACE67 1 -----
RACE35 1 -----

121130.....140.....150.....160.....170.....180
U44942 1 -----
RACE13 105 CTCAATGTAGAAATACAT--CATAAAAACACCGAACCAAGTTATTTATCAGTGTTC--CA
RACE4 119 AATCACTTTGAAACATAAATTACCATCAAACCAATAGGGGAAGTATCACAGAGTGTACACC
RACE69 1 -----TTGACACTGACATGGACTAAGGAGTAGAAACAATAATTTT
RACE24 107 CTTATTGTACAACACAT--CATAAAAACGCCCAATAAGTGTTCGTACATGTTC--CA
RACE50 101 CTTATTGTACAACACAT--CATAAAAACGCCCAATAAGTGTTCGTACATGTTC--CA
RACE85 1 -----
RACE45 14 GACACTGAAGATTTAACCTTGAATATTTGAATTTCTGCTAATTGATGAACTGACAGA
RACE67 1 -----
RACE35 1 -----ATTTTTTTTTTTTGGTCTCGGTGTTCGTGCGTGAACAGT

181190.....200.....210.....220.....230.....240
U44942 1 -----TAAAGTCTCCGCTTCAGTTAAGAAAGTAGCCAGCCG--TGTAAA
RACE13 161 ATGAAAGAAAATGTTAATAATCTATGCTTATATCTTGACACACGACACCAAAATCTTT
RACE4 179 AGAAAATAAATAAAGTAAAGTCTCCGCTTCAGTTAAGAAAGTAGCCAGCCG--TGTAAA
RACE69 42 ATGAAATCAGT-CCAGCCCTTTAGAAATTCAGTACACACATACGTATCGA--TGT--
RACE24 163 AACAAAGAAATTAATGAAAGATAAGTGTAAAGCTCGCACAGCGAATAACAACGACCTC
RACE50 157 AACAAAGAAATTAATGAAAGATAAGTGTAAAGCTCGCACAGCGAATAACAACGACCTC
RACE85 1 -----
RACE45 74 ATTATGGACCACATACAGAATGATTGCTATATCATGTTGATAAACATATAAATCAGAA
RACE67 1 -----
RACE35 41 GTTGCTACGTTGAACGTAGCACGTTCTTCCA-ATTATCTTAATATTCTTGCAACAAGTAAT

241250.....260.....270.....280.....290.....300
U44942 44 TCAGCAAAAATAAAAATAAAGTCTCCG---TTTCAGTTAAGGCCCTCAGACAGGGGTG
RACE13 221 TCTTTAAATTCGTATAATTTATTTCTGTGAGACCATTGGACGGCCCTCAGACAGGGGTG
RACE4 237 TCAGCAAAAATAAAAATAAAGTCTCCG---TTTCAGTTAAGGCCCTCAGACAGGGGTG
RACE69 96 TCAGAAAATAAACATAATAAATGTTTGG---TTTTTTTAAAGGCCCTCAGACAGGGGTG
RACE24 223 GTCACGAATTCGCCACTTTATTTCTGTGAGACCATTTTATGGCCCTCAGACAGGGGTG
RACE50 217 GTCACGAATTCGCCACTTTATTTCTGTGAGACCATTTTATGGCCCTCAGACAGGGGTG
RACE85 1 -----
RACE45 134 AATGCTTAATGACTGCCACACACTCAAGTCTTTCATGGAATAGTCTAGAGCAGAAAGCCA
RACE67 1 -----GACTGGAGCACGAG--G
RACE35 100 TTAACCAAAAATATCTAATGGCAGATGACGCCGTGAA-----AAAAGACCCG

301310.....320.....330.....340.....350.....360
U44942 100 TTAGTAAATGGGTCCGAACAGACCCTTGAATCTTTACTGGAAATGTTCCGAAATGTGAAT
RACE13 281 TTAGTAAATGGGTCCGAACAGACCCTTGAATCTTTACTGGAAATGTTCCGAAATGTGAAT
RACE4 293 TTAGTAAATGGGTCCGAACAGACCCTTGAATCTTTACTGGAAATGTTCCGAAATGTGAAT
RACE69 151 TTAGTAAATGGGTCCGAACAGACCCTTGAATCTTTACTGGAAATGTTCCGAAATGTGAAT
RACE24 283 TTAGTAAATGGGTCCGAACAGACCCTTGAATCTTTACTGGAAAAGTTCCGAAATGTGAAT
RACE50 277 TTAGTAAATGGGTCCGAACAGACCCTTGAATCTTTACTGGAAATGTTCCGAAATGTGAAT
RACE85 1 -----TCCACTTTATTTCTGTGAACACCACTTTGAT--TGAAT
RACE45 194 CCCCCACATAGCT--ACTTTTCTCTGCCACTTTATCCCAAGATCCGTGAAAATTAAGAAC
RACE67 16 ACACCTGAATGG-----TCCCTTCCACATAGTGC--GGTACAGACACAATCCCAG
RACE35 153 CCCCAGAGGAGG-----TCACTTCAACTGAGGTTAAGAGTCTCCAGTAAAAAAT

361370.....380.....390.....400.....410.....420
U44942 160 CAAAAGTC---TGATAGACAAAGTTCTTTAGAGAATGGATATAGCTCTATG-----
RACE13 341 CAAAAGTC---TGATAGACAAAGTTCTTTAGAGAATGGATATAGCTCTATG-----
RACE4 353 CAAAAGTC---TGATAGACAAAGTTCTTTAGAGAATGGATATAGCTCTATG-----
RACE69 211 CAAAAGTC---TGATAGACAAAGTTCTTTAGAGAATGGATATAGCTCTATG-----
RACE24 343 CAAAAGTC---TGATAGACAAAGTTCTTTAGAGAATGGATATAGCTCTATG-----
RACE50 337 CAAAAGTC---TGATAGACAAAGTTCTTTAGAGAATGGATATAGCTCTATG-----
RACE85 37 CAAAAGTC---TGATAGACAAAGTTCTTTAGAGAATGGATATAGCTCTATG-----
RACE45 252 ACTGGGG-TTATTTCAACCAAATTATTTTCAGCAGCAGAGACAAAATTTGAAGAT
RACE67 64 AGTGTGC--TCACCGCTACTCAGAGC---TCAACACCTCAGCGTCTACTC---AAAA
RACE35 204 CTCCTCCGCAAAAAACTTGTCTCAAACAGCTGAAAGCAATGCAACGGTAAAGA---AAAG

421430.....440.....450.....460.....470.....480
U44942 208 AATGGGACAAGTAGTCCCTTAGCTTCCACAAATAAATTTTCAAAGAATGCCAACGTTTCAG
RACE13 389 AATGGGACAAGTAGTCCCTTAGCTTCCACAAATAAATTTTCAAAGAATGCCAACGTTTCAG
RACE4 401 AATGGGACAAGTAGTCCCTTAGCTTCCACAAATAAATTTTCAAAGAATGCCAACGTTTCAG
RACE69 259 AATGGGACAAGTAGTCCCTTAGCTTCCACAAATAAATTTTCAAAGAATGCCAACGTTTCAG
RACE24 391 AATGGGACAAGTAGTCCCTTAGCTTCCACAAATAAATTTTCAAAGAATGCCAACGTTTCAG
RACE50 385 AATGGGACAAGTAGTCCCTTAGCTTCCACAAATAAATTTTCAAAGAATGCCAACGTTTCAG
RACE85 85 AATGGGACAAGTAGTCCCTTAGCTTCCACAAATAAATTTTCAAAGAATGCCAACGTTTCAG
RACE45 311 GAGGATAAAAATTAGAATTTATGCCACACCTGAGCAATTGGTAGAGCAAATGCTTTCATGT
RACE67 114 AAACCTCAATATTA---TACTCAAAGTTCAAACAATCAATCAGG-----ATCCCCTGC
RACE35 260 AATGGTAGTACTGAAACACCTGAATCAAATAAATCACTGCAGAAATGGTACGCGCA

481490.....500.....510.....520.....530.....540
U44942 268 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTC---AAG---
RACE13 449 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTC---AAGTGGG
RACE4 461 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTC---AAGTGGG
RACE69 319 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTC---AAGTGGG
RACE24 451 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTC---AAGTGGG
RACE50 445 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTC---AAGTGGG
RACE85 145 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCTCATCAGTACCGTC---AAGTGGG
RACE45 371 GAA-----GCTCAACATAAACCGCTTGTATATCATTTTGTGTTGATCAGAAGTGGG
RACE67 165 G-----CTTAGTCTAACACACCCACAATACTTACATCAGTACCGTC---AAGTGGG
RACE35 320 GAG-----AGTAATCATGCGACGGA-CAATGGTCC-CTTCCACATAGTGTGCAAGTGGG

541550.....560.....570.....580.....590.....600
U44942
RACE13 506 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACAATCAACGACTGGCCACCAAGC
RACE4 518 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACATAGTGTGATACAGACACAATCC
RACE69 376 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACATAGTGTGATACAGTCCACAATCC
RACE24 508 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACATAGTGTGATACAGACACAATCC
RACE50 502 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACATAGTGTGATACAGACACAATCC
RACE85 202 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACATAGTGTGATACAGACACAATCC
RACE45 426 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACATAGTGTGTACAGACACAATCC
RACE67 214 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACATAGTGTGTACAGACACAATCC
RACE35 373 ATACTTCAGCCGCATACACTGAATGGTGCCTTCCACATAGTGTGATACAGACACAATCC

601610.....620.....630.....640.....650.....660
U44942
RACE13 566 -ACCGCATCAGTACCGTCAAG-----
RACE4 578 CAGAGTGTGCTCCCGTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAACTCA
RACE69 436 CAGAGTGTGCTCACCCTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAACTCA
RACE24 568 CAGAGTGTGCTCACCCTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAACTCA
RACE50 562 CAGAGTGTGCTCACCCTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAACTCA
RACE85 262 CAGAGTGTGCTCACCCTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAACTCA
RACE45 486 CAGAGTGTGCTCACCCTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAACTCA
RACE67 273 CAGAGTGTGCTCACCCTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAACTCA
RACE35 433 CAGAGTGTGCTCACCCTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAACTCA

661670.....680.....690.....700.....710.....720
U44942
RACE13
RACE4 638 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAACACAC
RACE69 496 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAACACAC
RACE24 628 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAACACAC
RACE50 622 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAACACAC
RACE85 322 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAACACAC
RACE45 546 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAACACAC
RACE67 333 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAACACAC
RACE35 493 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAACACAC

721730.....740.....750.....760.....770.....780

U44942
RACE13
RACE4
698 CCACAGAATGTTACATCAGTTCAAATGCGACCGTT-----
RACE69 556 CCACAGAATGTTACATCAGTTCAAATGCGACCGTT-----
RACE24 688 CCACAGAATGTTACATCAGTTCAAATGCGACCGTT-----TAT-----
RACE50 682 CCACAGAATGTTACATCAGTTCAAATGCGACCGTTATTACAGAATATTGCACAGGCGCAA
RACE85 382 CCACAGAATGTTACATCAGTTCAAATGCGACCGTT-----TAT-----
RACE45 606 CCACAGAATGTTACATCAGTTCAAATGCGACCGTT-----
RACE67 393 CCACAGAATGTTACATCAGTTCAAATGCGACCGTT-----
RACE35 553 CCACAGAATGTTACATCAGTTCAAATGCGACCGTT-----

781790.....800.....810.....820.....830.....480
-----CGTTCAG
U44942
RACE13
RACE4 734 -----ATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTCAAGCGTTCAG
RACE69 592 -----ATCAACGACTGGGCCACCAAGCACCGC**NNC**NGT**NNC**GN**NN**-----CGTTCAG
RACE24 726 -----CAACGACTGGGCCACCAAGCACCGCATCAGTACCGTCAAGCGTTCAG
RACE50 742 AGTCCACTTAA**AA**CA**CT**AACTGGGCCACCAAGCACCGCATCAGTACCGTCAAGCGTTCAG
RACE85 420 -----CAACGACTGGGCCACCAAGCACCGCATCAGTACCGT**CNN**-CGTTCAG
RACE45 642 -----ATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTCAAG**TT**CAT**GT**
RACE67 429 -----ATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTCA**---**CCCCT**GC**
RACE35 589 -----ATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGTCAAGCG**CCGAA**

481490.....500.....510.....520.....530.....540
U44942 268 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGT**C**---AAG---
RACE13 449 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGT**C**---AAGTGGG
RACE4 461 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGT**C**---AAGTGGG
RACE69 319 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGT**C**---A**CG**TGGG
RACE24 451 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGT**C**---AAGTGGG
RACE50 445 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGCATCAGTACCGT**C**---AAGTGGG
RACE85 145 ACGCGACCGTTATCAACGACTGGGCCACCAAGCACCGT**TC**CATCAGTACCGT**C**---AAGTGGG
RACE45 371 **GAA**-----**GCT****CA**AC**AT****AA**ACC**GCTT****GTTTT****ATAT****CA**TT**TTTT****GCTT****GAT**CAGAA**AGTGGG**
RACE67 165 **G**-----**CT**TA**GT****CT**AA**CA**CC**CA**CA**CA****AT****CT**TA**CA**T**CA**T**CA**GT**ACCGT****C**---AAGTGGG
RACE35 320 **GAG**-----**AG**TA**AT****CA**T**GC**GAC**GGA**-**CA**AT**GGT****CC**-**CT****TC**CA**CA**T**AGT****GT****GC**AAGTGGG

541550.....560.....570.....580.....590.....600

U44942
RACE13 506 ATACTTCAGCCGCATACACTGAATGGTGC**CCTTCCACA**AT**CAAC**CGACT**GGC**CAC**CAAGC**
RACE4 518 ATACTTCAGCCGCATACACTGAATGGTGC**CCTTCCACA**TAGTGTGATACAGACACA**ATCC**
RACE69 376 ATACTTCAGCCGCATACACTGAATGGTGC**CCTTCCACA**TAGTGTGATACAG**T**CACA**ATCC**
RACE24 508 ATACTTCAGCCGCATAC**CT**GAATGGTGC**CCTTCCACA**TAGTGTGATACAGACACA**ATCC**
RACE50 502 ATACTTCAGCCGCATACACTGAATGGTGC**CCTTCCACA**TAGTGTGATACAGACACA**ATCC**
RACE85 202 ATACTTCAGCCGCATACACTGAATGGTGC**CCTTCCACA**TAGTGTGATACAGACACA**ATCC**
RACE45 426 ATACTTCAGCCGCATACACTGAATGGTGC**CCTTCCACA**TAGTGT**G**TACAGACACA**ATCC**
RACE67 214 ATACTTCAGCCGCATACACTGAATGGTGC**CTTCCACA**TAGTGT**G**TACAGACACA**ATCC**
RACE35 373 ATACTTCAGCCGCATACACTGAATGGTGC**CCTTCCACA**TAGTGTGATACAGACACA**ATCC**

601610.....620.....630.....640.....650.....660

U44942
RACE13 566 -**ACC****GCAT****CAGT****ACCGT****CAAG**-----
RACE4 578 CAGAGTGTGCT**C**CCGCTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAAAACTCA
RACE69 436 CAGAGTGTGCTCACC**G**CTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAAAACTCA
RACE24 568 CAGAGTGTGCTCACC**G**CTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAAAACTCA
RACE50 562 CAGAGTGTGCTCACC**G**CTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAAAACTCA
RACE85 262 CAGAGTGTGCTCACC**G**CTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAAAACTCA
RACE45 486 CAGAGTGTGCTCACC**G**CTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAAAACTCA
RACE67 273 CAGAGTGTGCTCACC**G**CTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAAAACTCA
RACE35 433 CAGAGTGTGCTCACC**G**CTACTCAGAGCTCAACACCTGCAGCGTCTACTCAAAAAAAAACTCA

661670.....680.....690.....700.....710.....720

U44942
RACE13
RACE4 638 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAAACACAC
RACE69 496 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAAACACAC
RACE24 628 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAAACACAC
RACE50 622 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAAACACAC
RACE85 322 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAAACACAC
RACE45 546 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAAACACAC
RACE67 333 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAAACACAC
RACE35 493 ATATTAATTACTCAAAGTTCAAAGAATCAATCAGGATCCCCTGCGCTTAGTGTAAACACAC