

BGH89_B01c-pET16-DEST

5' ttcttgaagacgaaagggcctcgtgatacgcctatTTTTATAGGTTAATGTCATGATAATAATGGTTTCT
 0 ++++++
 3' aagaacttctgcttccccggagcactatgCGGATAAAAATATCCAATTACAGTACTATTATTACCAAAGA

70

Zral
 AatII

5' tagacgtcaggtggcacttttcggggaaatgtgCGCGGAACCCCTATTTGTTATTTTTCTAAATACATT
 0 ++++++
 3' atctgcagtcaccCGTGAAAAGCCCTTTACACGCGCCTTGGGGATAAACAAATAAAAAGATTTATGTA

140

5' caaatatgtatccgctcatgagacaataaccctgataaatgcttcaataatattgaaaaaggaagagtat
 0 ++++++
 3' gtttatacataggcgagtactctgttattgggactatttacgaagtattataactTTTTCTTCTCATA

210

5' gagtattcaacatttccgtgtcgcccttattccctTTTTTGCGGCATTTTGCTTCTGTTTTTGCTCAC
 0 ++++++
 3' CTCATAAGTTGTAAGGCACAGCGGGAATAAGGGAAAAACGCCGTA AACCGGAAGGACAAAAACGAGTG

280

Ap

5' ccagaaacgctggtgaaagtaaaagatgctgaagatcagttgggtgcacgagtggttacatcgaactgg
 0 ++++++
 3' GGTCTTTCGACCACCTTTCATTTCTACGACTTCTAGTCAACCCACGTGCTCACCCAATGTAGCTTGACC

350

Ap

5' atctcaacagcggtaagatccttgagagtttTCGCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAA
 0 ++++++
 3' TAGAGTTGTCGCCATTCTAGGAACTCTCAAAGCGGGGCTTCTTGCAAAGGTACTACTCGTGAAAATT

420

Ap

5' agttctgctatgtggcgCGGTATTATCCCGTGTTGACGCCGGGCAAGAGCAACTCGGTGCGCGCATACAC
 0 ++++++
 3' TCAAGACGATACACCGCGCCATAATAGGGCACAACCTGCGGCCGTTCTCGTTGAGCCAGCGGCGTATGTG

490

Ap

Scal

5' tattctcagaatgacttgggtgagtactcaccagtcacagaaaagcatcttacggatggcatgacagtaa
 0 ++++++
 3' ATAAGAGTCTTACTGAACCAACTCATGAGTGGTCAGTGTCTTTTCGTAGAATGCCTACCGTACTGTCAAT

560

Ap

PvuI

5' gagaattatgcagtgctgccataaccatgagtgataaacactgCGGCCAACTTACTTCTGACAACGATCGG
 0 ++++++
 3' CTCTTAATACGTCACGACGGTATTGGTACTCACTATTGTGACGCCGGTTGAATGAAGACTGTTGCTAGCC

630

Ap

5' gcgacgatagtcattgccccgcgccaccggaaggagctgactgggttgaaggctctcaagggcatcggtc 3710
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' cgctgctatcagtacggggcgcggtggccttctcgactgacctcaacttccgagagttcccgtagccag

5' gagatcccgggtgcctaataatgagtgagctaacttacattaattgcggtgagcgcactgcccgccttcagtc 3780
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' ctctagggccacggattactcactcgattgaatgtaattaacgcaacgcgagtgacggggcgaaaggtcag

← Lac I

BsaXI

5' gggaaacctgtcgaggcagctgattaatgaatcggccaacgcgcggggagagggcggtttgctattggg 3850
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' cccttgacacgacggcgacgtaattacttagccggttgcgcccctctccgccaacgcataacc

Lac I

BsaXI

5' cgccaggggtggttttctttcaccagtgagacgggcaacagctgattgcccttcaccgcctggccctga 3920
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' gcggtcccaccaaagaaaagtggtcactctgcccgttgctgactaacgggaagtggcggaccgggact

Lac I

5' gagagttgcagcaagcggtccacgctgggttgcgccagcaggcgaaaatcctggttgatgggtggttaacg 3990
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' ctctcaacgctgctcgccaggtgacgaccaaacggggtcgctccgctttaggacaaactaccaccaattgc

Lac I

5' gcgggatataacatgagctgtcttcggtatcgctgatatccactaccgagatatccgcaccaacgcgcag 4060
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' cgccctatattgtactcgacagaagccatagcagcatagggtagtggtctataggcgtggttgccgctc

Lac I

BssHII

5' cccggactcggtaatggcgcgcattgcgccagcgcacatctgatcgttggcaaccagcatcgcagtggga 4130
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' gggcctgagccattaccgcgcgtaacgcgggtcgcggtgactagcaaccgcttggtcgttagcgtcacct

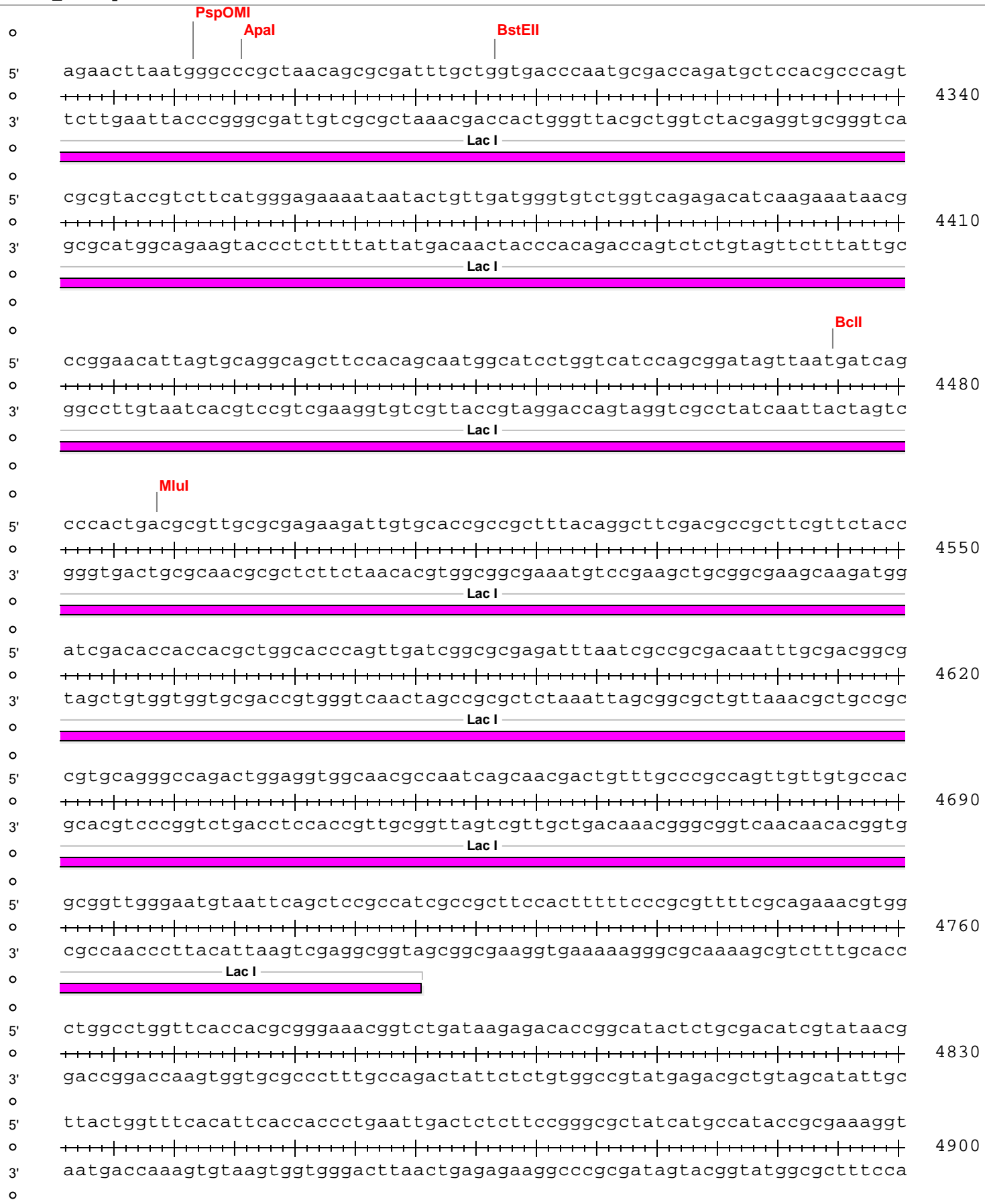
Lac I

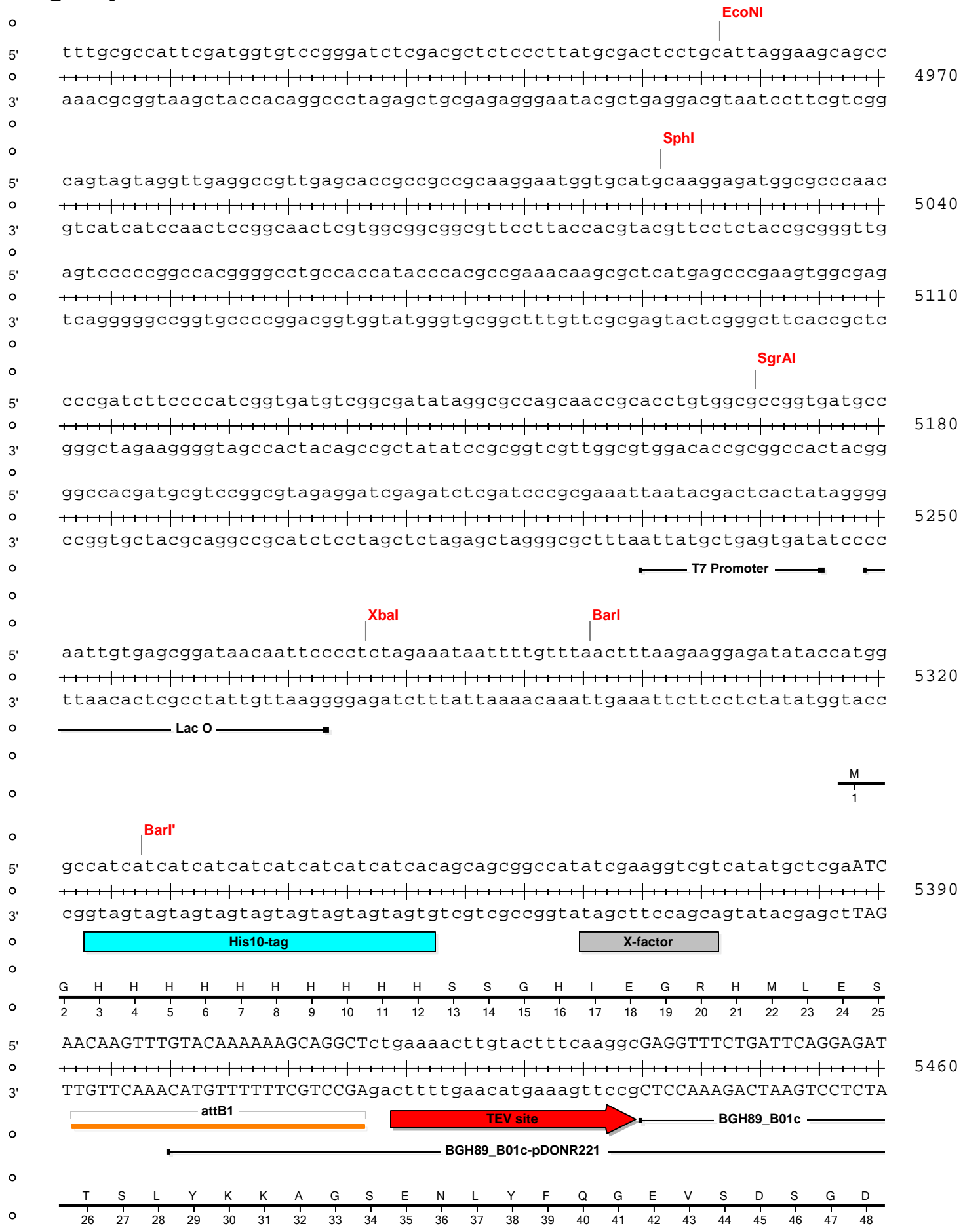
5' acgatgccctcattcagcatttgcattggtttggtgaaaaccggacatggcactccagtcgccttcccgtt 4200
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' tgctacgggagtaagtcgtaaacgtaccaaacactttggcctgtaccgtgaggtcagcgggaagggcaa

Lac I

5' ccgctatcggctgaatttgattgagtgagatatttatgccagccagccagacgcagacgcgccgagac 4270
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' ggcgatagccgactaaactaacgctcactctataaacacggtcggtcggtctgctctgcccggctctg

Lac I





BGH89_B01c-pET16-DEST

5' GGAAAGGTTTTAATAAAGGGGAATAATGGTGTTCCTTAGCATCAGGATTTAACTATTATTTAAAAAATT
 3' CCTTTCCAAATTATTTCCCCTTATTACCACAAAGGAATCGTAGTCCTAAATGATAATAAATTTTTTAA

5530

BGH89_B01c

BGH89_B01c-pDONR221

G K V L I K G N N G V S L A S G F N Y Y L K N
 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71

5' ATTGTAATGTAAGTTACAATCCAATAATGGGGTCTAATTTAAAAATGCCTGAAACAATGCCTTCTGTTGG
 3' TAACATTACATTCAATGTTAGTTATTACCCAGATTAAATTTTACGGACTTTGTTACGGAAGACAACC

5600

BGH89_B01c

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Y C N V S Y N P I M G S N L K M P E T M P S V G
 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95

5' GGAGAGAGTAGTTATAGATACTCCATATGAGCATAGATATGCATTAAACTTTTGTACCTATTCTTATACA
 3' CCTCTCTCATCAATATCTATGAGGTATACTCGTATCTATACGTAATTTGAAAACATGGATAAGAATATGT

5670

BGH89_B01c

BGH89_B01c-pDONR221

E R V V I D T P Y E H R Y A L N F C T Y S Y T
 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118

5' ATGTCTTTCTGGGATTGGGATCAATATGAAGAATTCCTAGATTGGTGTGCTATGAATGGGGTTAACTTAG
 3' TACAGAAAGACCCTAACCCTAGTTATACTTCTTAAGGATCTAACCCACACGATACTTACCCCAATTGAATC

5740

BGH89_B01c

BGH89_B01c-pDONR221

M S F W D W D Q Y E E F L D W C A M N G V N L
 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141

5' TTTTAGATATAATTGGACAAGAAGAGGTTTTAAGAAGAACCTTAAATGAATTTGGATATAGCGATGAAGA
 3' AAAATCTATATTAACCTGTTCTTCTCCAAAATTTCTTCTTGAATTTACTTAAACCTATATCGCTACTTCT

5810

BGH89_B01c

BGH89_B01c-pDONR221

V L D I I G Q E E V L R R T L N E F G Y S D E E
 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165

BGH89_B01c-pET16-DEST

5' GGT TAA AGA ATTTATTT CAG GAC CTGC ATATTTT GCT TGG TTCT ATATG CAAA ATATG ACTGG ATTGGA
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' CCA ATTTCT TAA ATA AAG TCCT GGAC GTATA AAAC GAAC CAAG ATATA CGTTT TATA CTGAC CTA AACCT

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----- BGH89_B01c-pDONR221 -----

V K E F I S G P A Y F A W F Y M Q N M T G F G
 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188

5880

5' GGT CCA CTTCT CTA AC GATTGG TTTG AGCAA AGAGC AGAGCT TGG AAG AAAAATGC ATGAT AGAATG CAAA
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' CCAG GTGA AGGAT TGCT AACCAA ACTCG TTTCT CGTCT CGAAC CTTCT TTTTAC GTA CTATCT TACG TTT

----- BGH89_B01c -----

----- BGH89_B01c-pDONR221 -----

G P L P N D W F E Q R A E L G R K M H D R M Q
 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211

5950

5' GTTT TGG AATA AAA TCCTG TTCTT CAAGG ATA CTCA GGTAT GGTTC CAAG AGACTT TAAGG AAAAAA ATCA
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' CAAA CCTT ATTTAG GACA AGA AGTT CCTAT GAGT CCATA CCAAG GTTCTCT GAAATT CCTTTTT TTAGT

----- BGH89_B01c -----

----- BGH89_B01c-pDONR221 -----

S F G I N P V L Q G Y S G M V P R D F K E K N Q
 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235

6020

5' AGA AGC ACAA ACTATTTCT CAAG GGGG ATGG TGTGG CTTT GATAG ACCAG ATATG CTTAAA ACATATGT A
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' TCTT CGT GTTTG ATAA AGAGT TCCCC CTACC ACAC CGAA ACTATCT GGTCT ATACGA ATTTT GTATAC AT

----- BGH89_B01c -----

----- BGH89_B01c-pDONR221 -----

E A Q T I S Q G G W C G F D R P D M L K T Y V
 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258

6090

5' AATGA AGGGG AGGCAG ATTTAT TCCAAA AGGTTGC AGATG TTTTCT ATGAAA AGCAAAA AGAAGT GTTTG
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' TTACTT CCCCCTCC GTCTA ATA AAGG TTTTCCA ACGTCTAC AAAAG ATACTTTTTCG TTTTCTTCAC AAAC

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----- BGH89_B01c-pDONR221 -----

N E G E A D Y F Q K V A D V F Y E K Q K E V F
 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281

6160

BGH89_B01c-pET16-DEST

5' TTAGCTAATTCAGAGCATATGGTTGGTATAGGTATTACACCAGAGGCTATAAATACAAATCCTTTAGCGT
 0
 3' AATCGATTAAGTCTCGTATACCAACCATATCCATAATGTGGTCTCCGATATTTATGTTTAGGAAATCGCA

6580

BGH89_B01c

BGH89_B01c-pDONR221

L A N S E H M V G I G I T P E A I N T N P L A
 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421

5' ATGAACTTTTATTTGACATGGCTTGGACTAGAGATCAAATAAACTTTAGAACATGGACTGAAGATTATAT
 0
 3' TACTTGAAAATAAACTGTACCGAACCTGATCTCTAGTTTATTTGAAATCTTGTACCTGACTTCTAATATA

6650

BGH89_B01c

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Y E L L F D M A W T R D Q I N F R T W T E D Y I
 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445

5' TGAAAGAAGATATGGTAAGACTAATAAAGAGATTTTAGAGGCTTGGAAATATTATATTAGACACTGCTTAC
 0
 3' ACTTCTTCTATACCATTCTGATTATTTCTCTAAAATCTCCGAACCTTATAATATAATCTGTGACGAATG

6720

BGH89_B01c

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E R R Y G K T N K E I L E A W N I I L D T A Y
 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468

5' AAAAAGAGAAATGATTATTACCAAGGTGCTGCTGAGTCTATTATAAATGCAAGACCAGGCTTTGGAATAA
 0
 3' TTTTCTCTTTACTAATAATGGTTCCACGACGACTCAGATAATATTTACGTTCTGGTCCGAAACCTTATT

6790

BGH89_B01c

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K K R N D Y Y Q G A A E S I I N A R P G F G I
 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491

5' AAAGTGCTTCAACTTGGGGACATTCAAAAATAGTTTATGATAAGAGTGAATTTGAAAAAGCTATTGAAAT
 0
 3' TTTCACGAAGTTGAACCCCTGTAAGTTTTTATCAAATACTATTCTCACTTAAACTTTTTTCGATAACTTTA

6860

BGH89_B01c

BGH89_B01c-pDONR221

K S A S T W G H S K I V Y D K S E F E K A I E I
 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515

BGH89_B01c-pET16-DEST

5' ATTTGCAAAGA AACTATGATGAATTCAAAGATAGTGATGCATTCCTTTATGACTTTGCTGATATATTA AAA
 0
 3' TAAACGTTTCTTGATACTACTTAAGTTTCTATCACTACGTAAGGAAATACTGAAACGACTATATAATTTT

6930

BGH89_B01c

BGH89_B01c-pDONR221

F A K N Y D E F K D S D A F L Y D F A D I L K
 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538

5' CAATTATTAGCTAACTCAGCTCAAGAATATTTATGAGGTTATGTGTAATGCTTATAATAATGGAAATGGAG
 0
 3' GTTAATAATCGATTGAGTCGAGTTCTTATAATACTCCAATACACATTACGAATATTATTACCTTTACCTC

7000

BGH89_B01c

BGH89_B01c-pDONR221

Q L L A N S A Q E Y Y E V M C N A Y N N G N G
 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561

Swal

5' AGAAATTTAAATTTGTTTCAGGAAAGTTTTTAGAACTTATAAAGCTTCAAGAGAGAGTATTATCAACTAG
 0
 3' TCTTTAAATTTAAACAAAGTCCTTTCAAAAATCTTGAATATTTCGAAGTTCTCTCTCATAATAGTTGATC

7070

BGH89_B01c

BGH89_B01c-pDONR221

E K F K F V S G K F L E L I K L Q E R V L S T R
 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585

Afill

5' ACCTGAATTCTTAATAGGAAATTTGGATTGAAGATGCTAGA ACTATGCTTAAGGACTCTGATGATTGGACT
 0
 3' TGGACTTAAGAATTATCCTTTAACCTAACTTCTACGATCTTGATACGAATTCCTGAGACTACTAACCTGA

7140

BGH89_B01c

BGH89_B01c-pDONR221

P E F L I G N W I E D A R T M L K D S D D W T
 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608

5' AAGGACTTATTTGAATTTAATGCTAGAGCTTTAGTAACA ACTTTGGGGTTCAAGAAATAATGCTGACGGTG
 0
 3' TTCCTGAATAAACTTAAATTACGATCTCGAAATCATTGTTGAACCCCAAGTTCTTTATTACGACTGCCAC

7210

BGH89_B01c

BGH89_B01c-pDONR221

K D L F E F N A R A L V T T W G S R N N A D G
 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631

BGH89_B01c-pET16-DEST

5' GTGGGCTTAAAGATTATTCTAATAGACAATGGTCAGGATTAAGTGGATTATTATTATGCTAGATGGGA
 3' CACCCGAATTTCTAATAAGATTATCTGTTACCAGTCCTAATTGACTCCTAATAATAATACGATCTACCT

————— BGH89_B01c —————
 ————— BGH89_B01c-pDONR221 —————

7280

G G L K D Y S N R Q W S G L T E D Y Y Y A R W E
 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655

BseRI

5' AAAATGGATAAATGGATTACAAGCTGAATTAGATGGAGGAGCTAAAGCCCCTAATATAGATTGGTTTAAAG
 3' TTTTACCTATTTACCTAATGTTTCGACTTAATCTACCTCCTCGATTTTCGGGGATTATATCTAACCAAATTC

————— BGH89_B01c —————
 ————— BGH89_B01c-pDONR221 —————

7350

K W I N G L Q A E L D G G A K A P N I D W F K
 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678

5' ATGGAGTATGACTGGGTAAACAAGAAGAGTGATACAGATAAGCTTTATCCTACAGAAGCTTCTAATGAAA
 3' TACCTCATACTGACCCATTTGTTCTTCTCACTATGTCTATTCGAAATAGGATGTCTTCGAAGATTACTTT

————— BGH89_B01c —————
 ————— BGH89_B01c-pDONR221 —————

7420

M E Y D W V N K K S D T D K L Y P T E A S N E
 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701

5' ACTTAGGAGAAGCTTGCTAAGATAGCCATGGAAAGTTATTCAGTAACTAATATGGATAAAAATATTAGGTGA
 3' TGAATCCTCTTGAACGATTCTATCGGTACCTTTCAATAAGTCATTGATTATACCTATTTTATAATCCACT

————— BGH89_B01c —————
 ————— BGH89_B01c-pDONR221 —————

7490

N L G E L A K I A M E S Y S V T N M D K I L G E
 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725

BamHI

5' AAATGAATAGGACCCAGCTTTCTTGTACAAAGTGGTTGATtcgaggatccggctgctaacaagcccgaa
 3' TTTACTTATCCTGGGTCGAAAGAACATGTTTCACCAACTAagctcctaggccgacgattgtttcgggctt

— BG...1c —
 ——— BGH89_B01c-pDONR221 ———

7560



N E
 726 727 728

o
5' aggaagctgagttggctgctgccaccgctgagcaataactagcataaccccttggggcctctaaacgggt 7630
o
3' tccttcgactcaaccgacgacggtggcgactcgttattgatcgattgggggaaccccgagatttgcca
o
o
o T7 Terminator o
o
5' cttgaggggttttttgctgaaaggaggaactatatccggatatcccgcaagaggcccggcagtaccggca 7700
o
3' gaactccccaaaaaacgactttcctccttgatataggcctataggcgcttctccgggcccgtcatggccgt
o
o T7 Terminator o
o
5' taaccaagcctatgcctacagcatccagggtgacggtgccgaggatgacgatgagcgcattgttagattt 7770
o
3' attggttcggatacggatgtcgtaggtcccactgccacggctcctactgctactcgcgtaacaatctaaa
o
o
o
5' catacacggtgcctgactgcgtagcaatttaactgtgataaactaccgcattaaagcttatcgatgata 7840
o
3' gtatgtgccacggactgacgcaatcgttaaattgacactatttgatggcgtaatttcgaatagctactat
o
5' agctgtcaaacaatgagaa
o
3' tcgacagtttgtactctt 7858
o