

BGH35_B04c-pET16-DEST

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70

Zral
 AatII

5' tagacgtcaggtggcacttttcggggaaatgtgcgcggaacccctatttggttatttttctaaatacatt
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 3' atctgcagtcaccctgtgaaaagccctttacacgcgccttggggataaacaataaaaagatttatgtaa

140

5' caaatatgtatccgctcatgagacaataaccctgataaatgcttcaataatattgaaaaaggaagagtat
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' gtttatacatagggcagtagtactctgttattgggactatttacgaagtattataactttttccttctcata

210



5' gagtattcaacatttcctgtgcgcccttattcccttttttgccgcatthttgccttctgtttttgctcac
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280

Ap

5' ccagaaacgctggtgaaagtaaaagatgctgaagatcagttgggtgcacgagtggttacatcgaactgg
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350

Ap

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 3' tagagttgtcgccattcttaggaactctcaaaagcggggcttcttgcaaaagggtactactcgtgaaaatt

420

Ap

5' agttctgctatgtggcgcggtattatcccgtggttgacgcccgggcaagagcaactcggtcgccgcatcac
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' tcaagacgatacaccgcgccataatagggcacaactgcccgggttctcgttgagccagcggcgtagtg

490

Ap

Scal

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 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' ataagagtcttactgaaccaactcatgagtggtcagtgctthttcgtagaatgcctaccgtactgtcatt

560

Ap

PvuII

5' gagaattatgcagtgctgccataaccatgagtgataaacactgcccgaacttacttctgacaacgatcgg
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' ctcttaatacgtcacgacgggtattggtagtactcactattgtgacgcccgggtgaatgaagactgttgtagcc

630

Ap

BGH35_B04c-pET16-DEST

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o	++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++	1330
3'	gcattagacgacgaacgtttgtttttttggaggatggtcgccacaaacaaacggcctagttctcgat	
o	Ori	
o		
5'	ccaactcttttccgaaggtaactggcttcagcagagcgcagataccaaatactgtccttctagtgtagc	
o	++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++	1400
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o	Ori	
o		
5'	cgtagttaggccaccacttcaagaactctgtagcaccgcctacatacctcgctctgctaactctgttacc	
o	++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++	1470
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o	Ori	
o		
5'	agtggctgctgccagtggcgataagtcgtgtcttaccgggttgactcaagacgatagttaccggataag	
o	++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++ ++++	1540
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o	Ori	
o		
5'	gcgacgcggtcgggctgaacggggggtcgtgcacacagcccagcttgagcgaacgcctacaccgaac	
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o	Ori	
o		
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o		
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o	Ori	
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o		
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o		

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		FspAI
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		BmeT110I
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PshAI

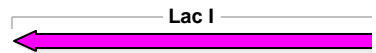


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3710

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3780



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3850

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3920

Lac I

HpaI



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Lac I

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4060

Lac I

BssHII



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4270

Lac I

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Lac I
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T7 Promoter

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Lac O

M
1

BamHI

NdeI

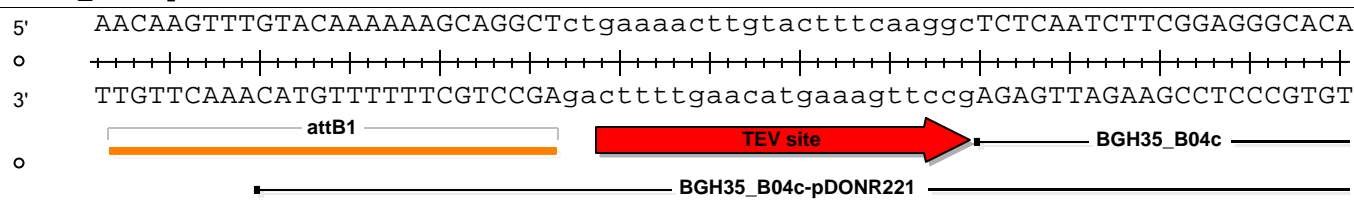
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His10-tag

X-factor

G H H H H H H H H S S G H I E G R H M L E S
 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

BGH35_B04c-pET16-DEST



5' AACAAAGTTTGTACAAAAAGCAGGCTctgaaaacttgtactttcaaggcTCTCAATCTTCGGAGGGCACA
 3' TTGTTCAAACATGTTTTTTCGTCCGAgacttttgaacatgaaagtccgAGAGTTAGAAGCCTCCCGTGT

5460

T S L Y K K A G S E N L Y F Q G S Q S S E G T
 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

5' TTTGAAGTGGGGAAGAATACTTTCTTGCTGAATGGAGAACC GTTGTGTAAAAGCGGCAGAGATTCATT
 3' AAAC TTCACCCCTTCTTATGAAAGAACGACTTACCTCTTGGCAAACAACATTTTCGCCGTCTCTAAGTAA

5530

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

5' ATCCGCGTATCCCGAAAGAATATTGGGAACATCGTATTAAAATGTGCAAGGCACTGGGTATGAATACGAT
 3' TAGGCGCATAGGGCTTTCTTATAACCCTTGTAGCATAATTTTACACGTTCCGTGACCCATACTTATGCTA

5600

Y P R I P K E Y W E H R I K M C K A L G M N T I
 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' TTGCTTGTATGTGTTCTGGAATTTTCATGAACCGGAAGAAGGAAGGTATGATTTTGCCGGACAGAAAGAT
 3' AACGAACATAACAAGACCTTAAAAGTACTTGGCCTTCTTCCCTTCCATACTAAAACGGCCTGTCTTTCTA

5670

C L Y V F W N F H E P E E G R Y D F A G Q K D
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5' ATAGCTGCGTTTTGCCGTTTGGCTCAAGAGAATGGAATGTATGTCATAGTGCGTCCCGGACCTTATGTCT
 3' TATCGACGCAAAACGGCAAACCGAGTTCTCTTACCTTACATACAGTATCACGCAGGGCCTGGAATACAGA

5740

I A A F C R L A Q E N G M Y V I V R P G P Y V
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BGH35_B04c-pET16-DEST

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5810

BGH35_B04c

BGH35_B04c-pDONR221

C A E W E M G G L P W W L L K K K D I K L R E Q
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5' AGACCCATACTACATGGAACGTGTGAAACTCTTTTTGAAACGAAGTGGGCAAACAGCTGGCTGATCTTTCAG
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5880

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5950

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BGH35_B04c-pDONR221

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6020

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6090

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BGH35_B04c-pDONR221

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6160

BGH35_B04c

BGH35_B04c-pDONR221

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 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281

5' GGTCCGGATGGTTTGACCATTGGGGAGCCAAGCATGAAACAAGAAGTGCCGAAGAATTGGTAAAAGGTAT
 3' CCAGGCCTACCAAACCTGGTAACCCCTCGGTTTCGTACTTTGTTCTTCACGGCTTCTTAACCATTTTCCATA

6230

BGH35_B04c

BGH35_B04c-pDONR221

W S G W F D H W G A K H E T R S A E E L V K G M
 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305

Spel

5' GAAAGAAATGCTGGACCGCAATATTTCTTTCAGCTTGTATATGACTCACGGGGGGACTAGTTTCGGGCAT
 3' CTTTCTTTACGACCTGGCGTTATAAAGAAAGTCGAACATATACTGAGTGCCCCCTGATCAAAGCCCGTA

6300

BGH35_B04c

BGH35_B04c-pDONR221

K E M L D R N I S F S L Y M T H G G T S F G H
 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328

5' TGGGGAGGCGCGAATTTCCCGAACTTTTCACCGACTTGCACATCGTATGATTATGATGCTCCTATCAATG
 3' ACCCTCCGCGCTTAAAGGGCTTGAAAAGTGGCTGAACGTGTAGCATACTAATACTACGAGGATAGTTAC

6370

BGH35_B04c

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W G G A N F P N F S P T C T S Y D Y D A P I N
 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351

5' AATCCGGTAAGGTGACTCCTAAATATCTGGAAGTACGGAATCTGCTTGGTAACTACCTGCCGGAAGGTGA
 3' TTAGGCCATTCCACTGAGGATTTATAGACCTTCATGCCTTAGACGAACCATTGATGGACGGCCTTCCACT

6440

BGH35_B04c

BGH35_B04c-pDONR221

E S G K V T P K Y L E V R N L L G N Y L P E G E
 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375

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5' AACCTTGCCGGAAATTCGGATTCGATACCGACTATAGCTATTCCTACTATTAAAATGACTGAAATGGCA
 3' TTGGAACGGCCTTTAAGGCCTAAGCTATGGCTGATATCGATAAAGGATGATAATTTTACTGACTTTACCGT

6510

BGH35_B04c

BGH35_B04c-pDONR221

T L P E I P D S I P T I A I P T I K M T E M A
 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398

5' GTCTTATTTGATAATCTGCCTCACCCCAAAGAGAGTGAGGATATCCGGACAATGGAAGCTTTTGATCAGG
 3' CAGAATAAACTATTAGACGGAGTGGGGTTTCTCTCACTCCTATAGGCCTGTTACCTTCGAAAACCTAGTCC

6580

BGH35_B04c

BGH35_B04c-pDONR221

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

Psrl

5' GATGGGGTAGTATTCTGTATCGGACTTCATTATCCGCTTCTGATAAAGAACAGACATTACTGATCACAGA
 3' CTACCCCATCATAAGACATAGCCTGAAGTAATAGGCGAAGACTATTTCTTGTCTGTAATGACTAGTGTCT

6650

BGH35_B04c

BGH35_B04c-pDONR221

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

Psrl'

5' AGCTCATGACTGGGCACAAGTCTTTCTGAATGGTAAGAAACTGGCTACTCTGAGCCGTTTGAAGGGGGAA
 3' TCGAGTACTGACCCGTGTTTCAGAAAGACTTACCATTCTTTGACCGATGAGACTCGGCAAACCTCCCCCTT

6720

BGH35_B04c

BGH35_B04c-pDONR221

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

5' GGTGTAGTAAAGTTACCACCATTTGAAAGAAGGTGACAGACTGGATATCCTGGTGGGAAGCAATGGGAAGAA
 3' CCACATCATTTC AATGGTGGTAAC TTTCTTCCACTGTCTGACCTATAGGACCACCTTCGTTACCCTTCTT

6790

BGH35_B04c

BGH35_B04c-pDONR221

G V V K L P P L K E G D R L D I L V E A M G R
 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491

BGH35_B04c-pET16-DEST

5' TGAATTCGGCAAAGGTATTTATGACTGGAAAGGTATTACCGAGAAAGTAGAACTGCAATCTGATAAAGG
 ++++++
 3' ACTTAAAGCCGTTTCATAAAATACTGACCTTTCATAATGGCTCTTTCATCTTGACGTTAGACTATTTCC

6860

BGH35_B04c

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

5' AGTTGAACTGGTGAAGGACTGGCAGGTATATACTATTCCGGTAGATTATAGTTTTGCCCGTGATAAGCAG
 ++++++
 3' TCAACTTGACCACTTCCTGACCGTCCATATATGATAAGGCCATCTAATATCAAAACGGGCACTATTCGTC

6930

BGH35_B04c

BGH35_B04c-pDONR221

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

Sall

5' TATAACAACAGGAGAATGCTGAAAATCAACCGGCTTATTATCGGTCGACGTTTAACCTCAATGAGTTAG
 ++++++
 3' ATATTTGTTGTCTTACGACTTTTATGTTGGCCGAATAATAGCCAGCTGCAAATTTGGAGTTACTCAATC

7000

BGH35_B04c

BGH35_B04c-pDONR221

Y K Q Q E N A E N Q P A Y Y R S T F N L N E L
 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561

5' GGGATACATTCTTGAATATGATGAACTGGAGTAAAGGTATGGTATGGGTGAATGGCCATGCGATTGGTTCG
 ++++++
 3' CCCTATGTAAGAACTTATACTACTTGACCTCATTTCATAACCATAACCCTTACCGGTACGCTAACCAGC

7070

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G D T F L N M M N W S K G M V W V N G H A I G 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

5' TTATTGGGAAATCGGACCTCAACAGACCTTATATGTACCGGGCTGCTGGTTGAAGAAAGGAGAGAATGAA
 ++++++
 3' AATAACCCTTTAGCCTGGAGTTGTCTGGAATATAATGGCCCGACGACCAACTTCTTTCTCTTACTT

7140

BGH35_B04c

BGH35_B04c-pDONR221

Y W E I G P Q Q T L Y V P G C W L K K G E N E
 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608

BGH35_B04c-pET16-DEST

5' ATCATTATATTGGATATGGCTGGTCTTCAAAGCTGAAACTGAAGGTCTGCGTCAACCAATTCTGGATG
 0 ++++++
 3' TAGTAATATAACCTATACCGACCAGGAAGTTTTCGACTTTGACTTCCAGACGCAGTTGGTTAAGACCTAC

7210

BGH35_B04c

BGH35_B04c-pDONR221

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

5' TACAACGTGGTAACGGAGCTTATGCTCATCGTAAGATGGGTGAGAACTTGGACTTAACAAATGAAACTCC
 0 ++++++
 3' ATGTTGCACCATTGCCTCGAATACGAGTAGCATTCTACCCACTCTTGAACCTGAATTGTTTACTTTGAGG

7280

BGH35_B04c

BGH35_B04c-pDONR221

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

5' TGTTTATCAAGGGATATTTAAGTCAGGCAATGGTTGGCAACATGTGTAGGACCCAGCTTTCTTGTACAAA
 0 ++++++
 3' ACAAATAGTTCCCTATAAATTCAGTCCGTTACCAACCGTTGTACACATCCTGGGTCGAAAGAACATGTTT

7350

BGH35_B04c

attB2

BGH35_B04c-pDONR221

V Y Q G I F K S G N G W Q H V .
 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671

BamHI

BlnI

5' GTGGTTGATtcgaggatccggctgctaacaagcccgaaggaagctgagttggctgctgccaccgctga
 0 ++++++
 3' CACCAACTAagctcctaggccgacgattgtttcgggctttccttcgactcaaccgacgacggtggcgact

7420

attB2

T7 ...or

5' gcaataactagcataacccttggggcctctaaacgggtcttgaggggttttttgctgaaaggaggaact
 0 ++++++
 3' cgttattgatcgtattggggaaccccgagatttgcccagaactccccaaaaaacgactttcctccttga

7490

T7 Terminator

5' atatccggatatcccgaagaggcccgccagtagccgataaccaagcctatgcctacagcatccagggt
 0 ++++++
 3' tataggcctataggcggttctccgggcccgtcatggccgatttggttcggatacggatgtcgtaggtcca

7560

5' gacggtgccgaggatgacgatgagcgcattgttagatttcatacacgggtgacctgactgcgtagcaattt
 0 ++++++
 3' ctgccacggctcctactgctactcgcgtaacaatctaaagtatgtgccacggactgacgcaatcgtaa

7630

EcoRI

5' aactgtgataaactaccgcattaagcttatcgatgataagctgtcaaacatgagaa
 0 ++++++
 3' ttgacactatttgatggcgtaatttcgaatagctactattcgacagtttgactctt

7687