



















BGT10\_T01b1-pET32-DEST

5' gtgaagtggcggcaaccaaagtgggtgcaactgtctaaaggtcagttgaaagagttcctcgacgctaact  
 3' cacttcaccgcccgttggtttcaccacgtgacagatttccagtcaactttctcaaggagctgcgattgga

Trx Tag

5530

G E V A A T K V G A L S K G Q L K E F L D A N L  
 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108

MscI

5' ggccggttctggttctggccatatgcaccatcatcatcattcttctggtctggtgccacgcggttct  
 3' ccggccaagaccaagaccggtatacgtggtagtagtagtaagaagaccagaccacggtgcgccaaga

-T...g

His6-tag      Thrombin

5600

A G S G S G H M H H H H H S S G L V P R G S  
 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131

BstBI

BglII

Acc65I

KpnI

5' ggtatgaaagaaaccgctgctgctaaattcgaacgccagcacatggacagcccagatctgggtaccgacg  
 3' ccatactttcttggcgacgacgatttaagcttgcggtcgtgtacctgtcgggtctagacctatggctgc

En...e

5670

G M K E T A A A K F E R Q H M D S P D L G T D  
 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154

NcoI

5' acgacgacaaggccatggcgatATCAACAAGTTTGTACAAAAAAGCAGGCTctgaaaacttgtactttca  
 3' tgctgctgttccggtaccgctaTAGTTGTTCAAACATGTTTTTTCGTCCGAgacttttgaacatgaaagt

Enterokinase      attB1      TEV site

BGT10\_T01b1-pDONR221

5740

D D D K A M A I S T S L Y K K A G S E N L Y F Q  
 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178

5' aggcTTCCAGCCCCTATTAGACGCTTATACAGACAGACCCGTTTAGATGAAACCGATTATAAGCCCCCA  
 3' tccgAAGGTCGGGGATAATCTGCGAATATGTCTGTCTGGGCAAATCTACTTTGGCTAATATTCGGGGGT

Catalytic Module

BGT10\_T01b1

BGT10\_T01b1-pDONR221

5810

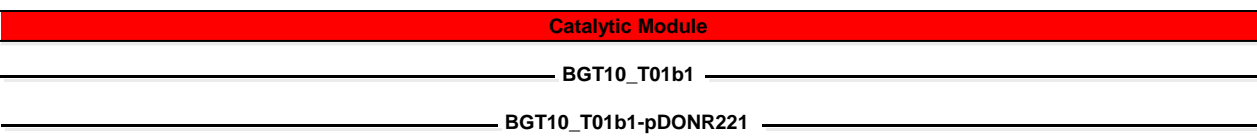
G F Q P L L D A Y T D S T R L D E T D Y K P P  
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BGT10\_T01b1-pET32-DEST

5' TTAAATATAGCCCTAGCCAATTGGTGGCCTTTGGATAAAAGAGAAAGCAAAGGTTTAGGCGTTTTATCT  
 3' AATTTATATCGGGATCGGTTAACCACCGGAAACCTATTTTCTCTTTCGTTTCCCAAATCCGCAAATAGA

5880

MfeI

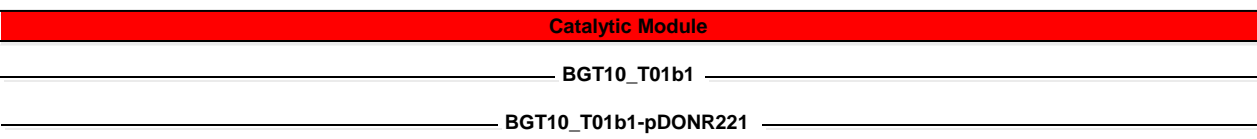


L N I A L A N W W P L D K R E S K G F R R F I  
 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224

5' TGTATTTTCATCTTAAGCCAACGCTACACAATCACCCCTCACCAAACCCCTAACGAACCCTCCGATCTTGT  
 3' ACATAAAGTAGAATTTCGGTTGCGATGTGTTAGTGGGAGGTGGTTTTGGGATTGCTTGGGAGGCTAGAACA

5950

AfIII

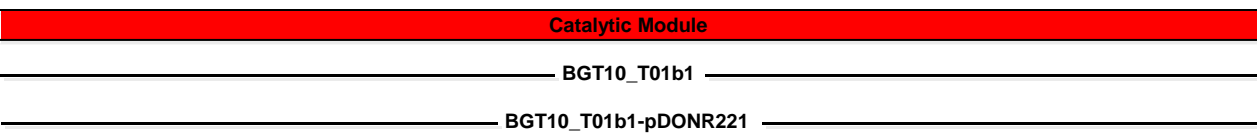


L Y F I L S Q R Y T I T L H Q N P N E P S D L V  
 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248

5' CTTTGGCAGTCCTATTGGATCAGCCAGAAAAATCCTATCCTATCAAACACTAAAAGGGTGTTTTACACC  
 3' GAAACCGTCAGGATAACCTAGTCGGTCTTTTAGGATAGGATAGTTTTGTGATTTCCACAAAATGTGG

6020

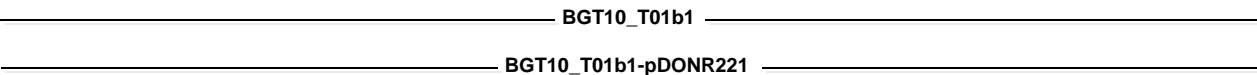
AgeI



F G S P I G S A R K I L S Y Q N T K R V F Y T  
 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271

5' GGTGAAAATGAAGTCCCTAATTTCAATCTCTTTGATTACGCCATAGGCTTTGATGAATTGGACTTTAGAG  
 3' CCACTTTTACTTCAGGGATTAAAGTTAGAGAACTAATGCGGTATCCGAACTACTTAACTGAAATCTC

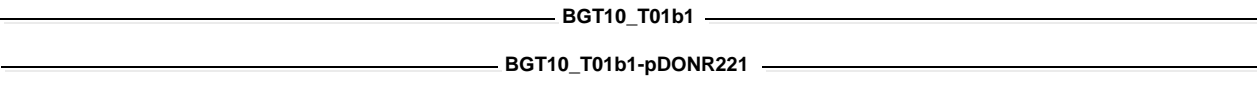
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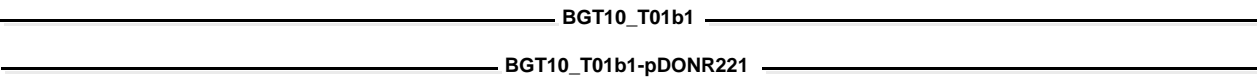
G E N E V P N F N L F D Y A I G F D E L D F R  
 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294

BGT10\_T01b1-pET32-DEST

o  
 5' ATCGTTATTTGAGAATGCCTTTATATTACGCTAGCTTGCATTATAAAGCCGAGAGCGTGAATGACACCAC 6160  
 o  
 3' TAGCAATAAACTCTTACGGAAATATAATGCGATCGAACGTAATATTTTCGGCTCTCGCACTTACTGTGGTG

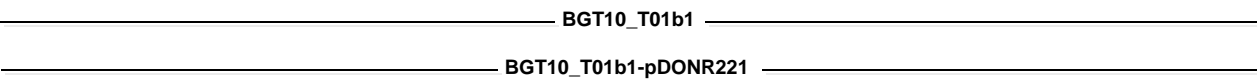


o  
 o  
 5' CGCGCCCTACAAACTCAAAGACAACAGCCTTTATGCTTTAAAAAGCCCTCCCATCATTTTAAAGAAAAC 6230  
 o  
 3' GCGCGGGATGTTTGAGTTTCTGTTGTCGGAAATACGAAATTTTTTCGGGAGGGTAGTAAAAATTTCTTTTG



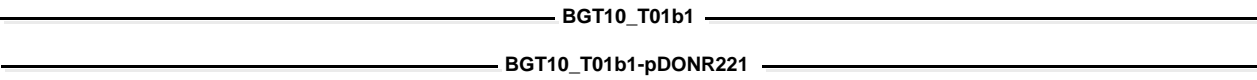
o  
 o  
 A P Y K L K D N S L Y A L K K P S H H F K E N  
 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341

5' CACCCTAATTTATGCGCAGTAGTGAATGATGAGAGCGATCCTTTGAAAAGAGGGTTTGCAGCTTTGTGCG 6300  
 o  
 3' GTGGGATTAATAACGCGTCATCACTTACTACTCTCGCTAGGAACTTTTCTCCCAAACGCTCGAAACAGC



o  
 o  
 H P N L C A V V N D E S D P L K R G F A S F V  
 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364

5' CGAGCAACCCTAACGCTCCTATAAGGAACGCTTTCTATGACGCTTTAAATTCTATTGAGCCAGTTACTGG 6370  
 o  
 3' GCTCGTTGGGATTGCGAGGATATTCCTTGCGAAAGATACTGCGAAATTTAAGATAACTCGGTCAATGACC



o  
 o  
 A S N P N A P I R N A F Y D A L N S I E P V T G  
 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388

BGT10\_T01b1-pET32-DEST

5' GGGAGGGAGCGTGAAAAACACTTTTAGGCTATAACGTCAAAAACAAGAGCGAGTTTTTAAGCCAATACAAA  
 3' CCCTCCCTCGCACTTTTTGTGAAATCCGATATTGCAGTTTTTTGTTCTCGCTCAAAAATTCGGTTATGTTT

6440

**Catalytic Module**

————— BGT10\_T01b1 —————

————— BGT10\_T01b1-pDONR221 —————

G G S V K N T L G Y N V K N K S E F L S Q Y K  
 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411

5' TTCAATCTGTGTTTTGAAAACTCAAGGCTATGGCTATGTAAGTCAAAAATCATTGACGCTTATTTCA  
 3' AAGTTAGACACAAAACCTTTTTGTGAGTTCCGATACCGATACATTGACTTTTTTTAGTAACTGCGAATAAAGT

6510

**Catalytic Module**

————— BGT10\_T01b1 —————

————— BGT10\_T01b1-pDONR221 —————

F N L C F E N T Q G Y G Y V T E K I I D A Y F  
 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434

5' GCCACACCATTCCCATTTATTGGGGGAGTCCTAGCGTGGCGAAAGACTTTAACCCTAAGAGTTTTGTGAA  
 3' CGGTGTGGTAAGGGTAAATAACCCCTCAGGATCGCACCGCTTTCTGAAATTGGGATTCTCAAAACACTT

6580

**Catalytic Module**

————— BGT10\_T01b1 —————

————— BGT10\_T01b1-pDONR221 —————

S H T I P I Y W G S P S V A K D F N P K S F V N  
 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458

5' CGTTTGTGATTTTAAAACTTTGATGAAGCGATTGATTACGTGAGATACTTGCACACGCACCCAAACGCT  
 3' GCAAACACTAAAATTTTTGAAACTACTTCGCTAACTAATGCACTCTATGAACGTGTGCGTGGTTTTGCGA

6650

**Catalytic Module**

————— BGT10\_T01b1 —————

————— BGT10\_T01b1-pDONR221 —————

V C D F K N F D E A I D Y V R Y L H T H P N A  
 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481

5' TATTTAGACATGCTCTATGAAAACCCTTTAAACACCCTTGATGGGAAAGCTTACTTTTACCAAATTTGA  
 3' ATAAATCTGTACGAGATACTTTTGGGAAATTTGTGGGAACTACCCTTTCGAATGAAAATGGTTTTAAACT

6720

**Catalytic Module**

————— BGT10\_T01b1 —————

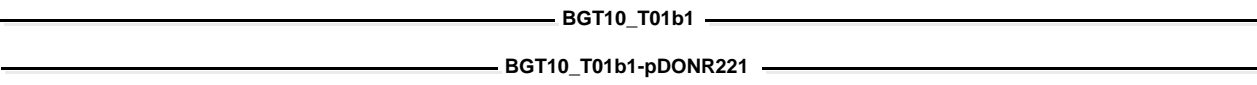
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Y L D M L Y E N P L N T L D G K A Y F Y Q N L  
 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504

BGT10\_T01b1-pET32-DEST

5' GTTTTAAAAAATCCTAGATTTTTTTTAAAACGATTTTAGAAAACGACACGATCTATCACGATAACCCTTT  
 3' CAAAATTTTTTTAGGATCTAAAAAATTTTGCTAAAAATCTTTTGCTGTGCTAGATAGTGCTATTGGGAAA

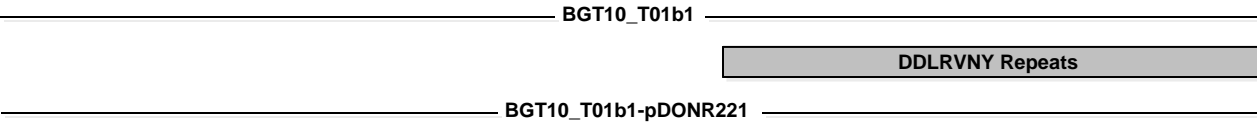
6790



S F K K I L D F F K T I L E N D T I Y H D N P F  
 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528

5' CATTTCCTATCGCGATTTGAATGAGCCTTTAGTAGCTATTGATGATTTGAGGGTTAATTATGATGATTG  
 3' GTAAAAGATAGCGCTAAACTTACTCGGAAATCATCGATAACTACTAAACTCCCAATTAATACTACTAAAC

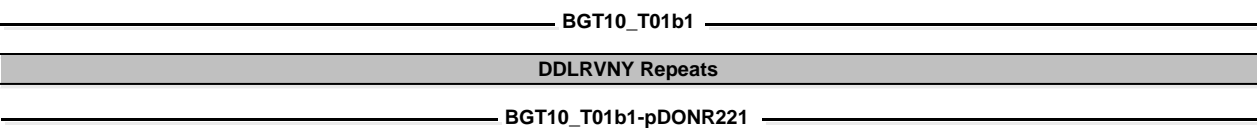
6860



I F Y R D L N E P L V A I D D L R V N Y D D L  
 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551

5' AGGGTTAATTATGATGATTTGAGGGTTAATTATGATGATTTGAGGGTTAATTATGATGATTGAGGGTTA  
 3' TCCCAATTAATACTACTAAACTCCCAATTAATACTACTAAACTCCCAATTAATACTACTAAACTCCCAAT

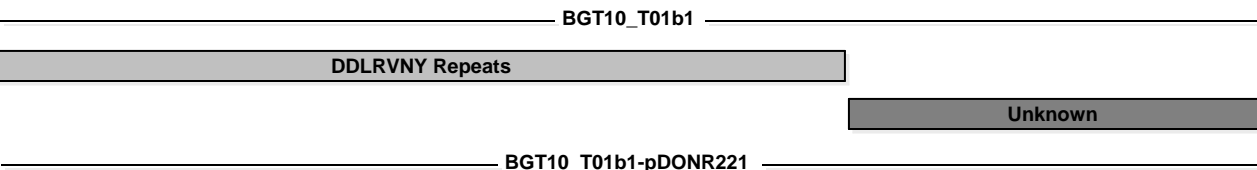
6930



R V N Y D D L R V N Y D D L R V N Y D D L R V  
 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574

5' ATTATGATGATTTGAGGGTTAATTATGATGATTTGAGGGTTAATTATGATCGCCTTTTACAAAACGCTTC  
 3' TAATACTACTAAACTCCCAATTAATACTACTAAACTCCCAATTAATACTAGCGGAAAATGTTTTGCGAAG

7000



N Y D D L R V N Y D D L R V N Y D R L L Q N A S  
 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598

BGT10\_T01b1-pET32-DEST

5' GCCTTTATTAGA ACTCTCTCAA AACACC ACTTTTTAAA ATCTATCGCAAAGCCTATCAAAAATCCTTACCT  
 0 ++++++  
 3' CGGAAATAATCTTGAGAGAGTTTTGTGGTGAAAATTTTAGATAGCGTTTCGGATAGTTTTTAGGAATGGA

7070

BGT10\_T01b1

Unknown

BGT10\_T01b1-pDONR221

P L L E L S Q N T T F K I Y R K A Y Q K S L P  
 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621

5' TTGTTGCGCACCATAAGGAGATGGGTTAAAAAATAGGACCCAGCTTTCTTGTACAAAGTGGTTGATatcg  
 0 ++++++  
 3' AACAAACGCGTGGTATTCTCTACCCAATTTTTTATCCTGGGTTCGAAAGAACATGTTTCACCAACTAtagc

7140

BGT10\_T01b1

attB2

Unknown

BGT10\_T01b1-pDONR221

L L R T I R R W V K K .  
 622 623 624 625 626 627 628 629 630 631 632 633

BamHI EcoRI EcoICRI SacI Sall NotI EagI PspXI XhoI Aval BmeT110I

5' gatccgaattcgagctccgctcgacaagcttgcggccgcactcgcgaccaccaccaccaccactgagatc  
 0 ++++++  
 3' ctaggcttaagctcgaggcagctgttcgaacgccggcgtgagctcgtgggtgggtgggtgggtgactctag

7210

BlnI

5' cggctgctaacaaagcccgaaggaagctgagttggctgctgccaccgctgagcaataactagcataacc  
 0 ++++++  
 3' gccgacgattgttccgggcttcccttcgactcaaccgacgacgggtggcgactcgttattgatcgattgg

7280

T7 Terminator

5' ccttggggcctctaacgggtcctgaggggttttttgctgaaaggaggaactatataccggat  
 0 ++++++  
 3' ggaaccccgagatttgcccagaactccccaaaaaacgactttccctccttgatataggccta

7342

T7 Terminator