

BGH37\_B01a-pET16-DEST

5' ttcttgaagacgaaagggcctcgtgatacgcctatttttatagggttaatgtcatgataataatggtttct  
 0 ++++++  
 3' aagaacttctgctttcccgggagcactatgCGGATAAAAATATCCAATTACAGTACTATTATTACCAAAGA  
 0

Zral  
 AatII

5' tagacgtcaggtggcacttttcggggaaatgtgCGCGGAACCCCTATTTGTTATTTTCTAAATACATT  
 0 ++++++  
 3' atctgcagtcaccCGTGAAAAGCCCCTTACACGCGCCTTGGGGATAAACAAAATAAAAAGATTTATGTA  
 0

Sspl

5' caaatatgtatccgctcatgagacaataaccctgataaatgcttcaataattgaaaaaggaagagtat  
 0 ++++++  
 3' gtttatacataggcgagtagctctgttattgggactatttacgaagtattataactttttccttctcata  
 0

5' gagtattcaacatttccggtgCGCCCTTATCCCTTTTTGCGGCATTTTGCCTTCTGTTTTGTCTCAC  
 0 ++++++  
 3' ctcataagttgtaaaggcacagCGGGAATAAGGGAAAAACGCCGTA AACCGGAAGGACAAAACGAGTG  
 0

Ap

5' ccagaaacgctggtgaaagtaaaagatgctgaagatcagttgggtgcacgagtggttacatcgaactgg  
 0 ++++++  
 3' ggtccttgCGACCCTTCAATTTCTACGACTTCTAGTCAACCCACGTGCTCACCAATGTAGCTTGACC  
 0

Ap

5' atctcaacagCGGTAAGATCCTTGAGAGTTTTGCCCCGAAGAAGCTTTTCCAATGATGAGCACTTTTAA  
 0 ++++++  
 3' tagagttgctCGCCATTCTAGGAAGCTCTCAAAGCGGGGCTTCTTGCAAAGGTACTACTCGTGA  
 0

Ap

5' agttctgctatgtggcgCGGTATTATCCCGTGTGACGCGGGCAAGAGCAACTCGGTGCGCGCATACAC  
 0 ++++++  
 3' tcaagacgatacaccCGGCCATAATAGGGCACAAGTGCAGCCCGTCTCTCGTTGAGCCAGCGGCGTATGTG  
 0

Ap

Scal

5' tattctcagaatgacttgggtgagtagtaccagtcacagaaaagcatcttacggatggcatgacagtaa  
 0 ++++++  
 3' ataagagtcttactgaaccaactcatgagtggtcagtgcttttctgtagaatgctaccgtagtgcatt  
 0

Ap

PvuII

5' gagaattatgcagtgctGCCATAACCATGAGTGATAAACTGCGGCCAACTTACTTCTGACAACGATCGG  
 0 ++++++  
 3' ctcttaatacgtcagcaggtattggtagtactcatttgtagcgcCGGTTGAATGAAGACTGTTGCTAGCC  
 0

Ap



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5' cgtaatctgctgcttgcaacaaaaaaccaccgctaccagcgggtggtttgtttgccggatcaagagcta  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1330  
3' gcattagacgacgaacgtttgttttttgggggatggtcgccaccaaacaaacggcctagttctcgat  
o  
o  
o Ori  
5' ccaactcttttccgaaggtaactggcttcagcagagcgcagatacacaatactgtccttctagtgtagc  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1400  
3' ggttgagaaaaaggcttccattgaccgaagtcgtctcgcgtctatggtttatgacaggaagatcacatcg  
o  
o  
o Ori  
5' cgtagttaggccaccacttcaagaactctgtagcaccgcctacatacctcgcctctgctaactcctgttacc  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1470  
3' gcatcaatccgggtggtgaagtcttgagacatcgtggcggatgtatggagcgcagacgattaggacaatgg  
o  
o  
o Ori  
5' agtggctgctgcccagtgccgataagtcgtgtcttaccggggtggactcaagacgatagttaccggataag  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1540  
3' tcaccgacgacgggtaccgctattcagcacagaatggccaacctgagttctgctatcaatggcctattc  
o  
o  
o Ori  
5' ggcgagcggtcgggctgaacggggggtcgtgcacacagcccagcctggagcgaacgacctacaccgaac  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1610  
3' cgcgtcgccagcccgacttgcccccacgcgacgtgtgtcggggtcgaacctcgccttgctggatgtggccttg  
o  
o  
o Ori  
5' tgagatacctacagcgtgagctatgagaaagcggccacgcttcccgaagggagaaagggcggacaggtatcc  
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3' actctatggatgtcgcactcgatactcttctcgcggtgcaagggcttccttcttccgcctgtccatagg  
o  
o  
o Ori  
5' ggtaagcggcagggctcggaacaggagagcgcacgagggagcttccaggggaaacgcctggatctttat  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1750  
3' ccattcgccgtcccagccttgtcctctcgcgtgctccctcgaaggtcccccttgcggaccatagaaata  
o  
o  
o Ori  
5' agtcctgtcggggttccgccacctctgacttgagcgtcgatTTTTGTGATGCTCGTCAGGGGGGGCAGGCC  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1820  
3' tcaggacagcccaaagcgggtggagactgaactcgcagctaaaaactacgagcaggtcccccgccctcgg  
o  
o  
o Ori  
o  
o Pcil  
5' tatggaaaaacgccagcaacgcggcctttttacggttcttggccttttgetggccttttgetcacatggt  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1890  
3' ataccttttgcggcgttgcgcgggaaaaatgccaaggaccggaaaacgaccggaaaacgagtgataca  
o  
o  
o Ori  
5' ctttcctgcggttatccctgattctgtggataaccgtattaccgccttggagtggagctgataaccgctcgc  
o ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ 1960  
3' gaaaggacgcaataggggactaagacacctattggcataatggcgaaactcactcgactatggcgagcg  
o  
o



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5' gcagcagtcgcttcacgcttcgctcgcgcatcgggtgattcattctgctaaccagtaaggcaaccccgccag 2870  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' cgtcgtcagcgaagtgcaagcgagcgcataagccactaagtaagacgattgggtcattccggtggggcggtc  
o  
o

**FspAI** |

**AvaI** |  
**BmeT110I** ||

5' cctagccgggtcctcaacgacaggagcacgatcatgcgccaccggtggccaggacccaacgctgcccgaga 2940  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' ggatcggcccaggagttgctgtcctcgtgctagtagcgcgtgggaccgggtcctggggtgcgacggggtct  
o  
o

5' tgcgccgctgctggctggagatggcgacgcgatggatattgttctgccaaagggttggtttgctgatt 3010  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' acgctggcgacgcccgcacgacctctaccgctcgcgtacctatacaagacgggtcccaaccaaaccgctaa  
o  
o

5' cacagttctccgcaagaattgattgggtccaattcttgagtggtgaatccgtagcgaggtgccgcccgg 3080  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' gtgtcaagagggcgttcttaactaaccgaggttaagaacctcaccacttaggcaatcgctccacggcggcc  
o  
o

5' cttccattcaggtcgaggtggcccgggtccatgcaccgcgacgcaacgcggggaggcagacaaggtatag 3150  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' gaagtaagtccagctccaccgggcccaggtacgtggcgctgcttgcgccccctcgtctgttccatatt  
o  
o

5' ggcggcgctacaatccatgccaaaccgctccatgtgctcgcagaggcggcataaatcgccgtgacgatc 3220  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' ccgcccggatggttaggtacggttgggcaagggtacacgagcgggtccgcccgtatttagcggcactgctag  
o  
o

5' agcgggtccagtgatcgaagttaggctggtaagagcccgcgagcgcgacccctgaagctgtccctgatggctcgt 3290  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' tcgccaggctcactagcttcaatccgaccattctcggcgctcgttaggaacttcgacagggactaccagca  
o  
o

**BspMI** |

5' catctacctgcctggacagcatggcctgcaacgcgggcatcccgatgccgcccgaagcgagaagaatcat 3360  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' gtagatggacggacctgtcgtaccggacgttgcgcccgtagggctacggcggccttcgctcttcttagta  
o  
o

5' aatggggaaggccatccagcctcgcgtcgcgaacgccagcaagacgtagcccagcgcgtcgccgccatg 3430  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' ttacccttccggtaggtcggagcgcagcgttgcggctcgttctgcatcgggtcgcgcagcccggcggtac  
o  
o

5' ccggcgataatggcctgcttctcgcgaaacggttggtggcgggaccagtgacgaaggcttgagcgaggg 3500  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' ggccgctattaccggacgaagagcggccttgcaaacaccgcctggtcactgcttccgaactcgctccc  
o  
o

5' cgtgcaagattccgaataaccgcaagcgcacaggccgatcatcgtcgcgctccagcgaagcggctcctcgcc 3570  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3' gcacgttctaaggcttatggcgcttcgctgtccggctagtagcagcgcgaggtcgctttcggcaggagcgg  
o  
o

5' gaaaatgaccagagcgcgtgcccggcacctgtcctacgagttgcatgataaagaagacagtcataagtgcg 3640  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
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o  
o

BGH37\_B01a-pET16-DEST

5' gcgacgatagtc atgccccgcgccaccggaaggagctgactgggttgaaggctctcaagggcatcggtc 3710  
 0 ++++++  
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5' gagatcccgggtgccta atgagtgagctaacttacattaattgcgttgcgctcactgcccgcttccagtc 3780  
 0 ++++++  
 3' ctctagggccacggattactcactcgattgaatgtaattaacgcaacgcgagtgacggggcgaagggtcag

Lac I ←

BsaXI

5' gggaaacctgctgc tgcagctgcattaatgaatcggccaacgcgcggggagaggcggtttgcgatttggg 3850  
 0 ++++++  
 3' cccttgacacgcaggtcgacgtaattacttagccggttgcgcgccctctccgccaacgcataacc

Lac I

BsaXI

5' cgccaggggtggtttttcttttcaccagtgagacgggcaacagctgattgcccttcaccgcctggccctga 3920  
 0 ++++++  
 3' gcggtcccaccaaagaaaagtggtcactctgcccgttgctcgactaacgggaagtggcggaccgggact

Lac I

5' gagagttgcagcaagcgg tccacgctggtttgccccagcaggcgaaaatcctgtttgatgggtggttaacg 3990  
 0 ++++++  
 3' ctctcaacgctcgttcgccaggtgcgaccaaacggggtcgctccgcttttaggacaaactaccaccaattgc

Lac I

5' gcgggatataacatgagctgtcttcggtatcgtcgtatcccactaccgagatatccgcaccaacgcgcag 4060  
 0 ++++++  
 3' cgccctatattgtactcgacagaagccatagcagcatagggatggctctataggcgtggttgcgcgtc

Lac I

BssHII

5' cccggactcggta atggcgcgcattgcgcccagcgcacatctgatcgttggcaaccagcatcgcagtggga 4130  
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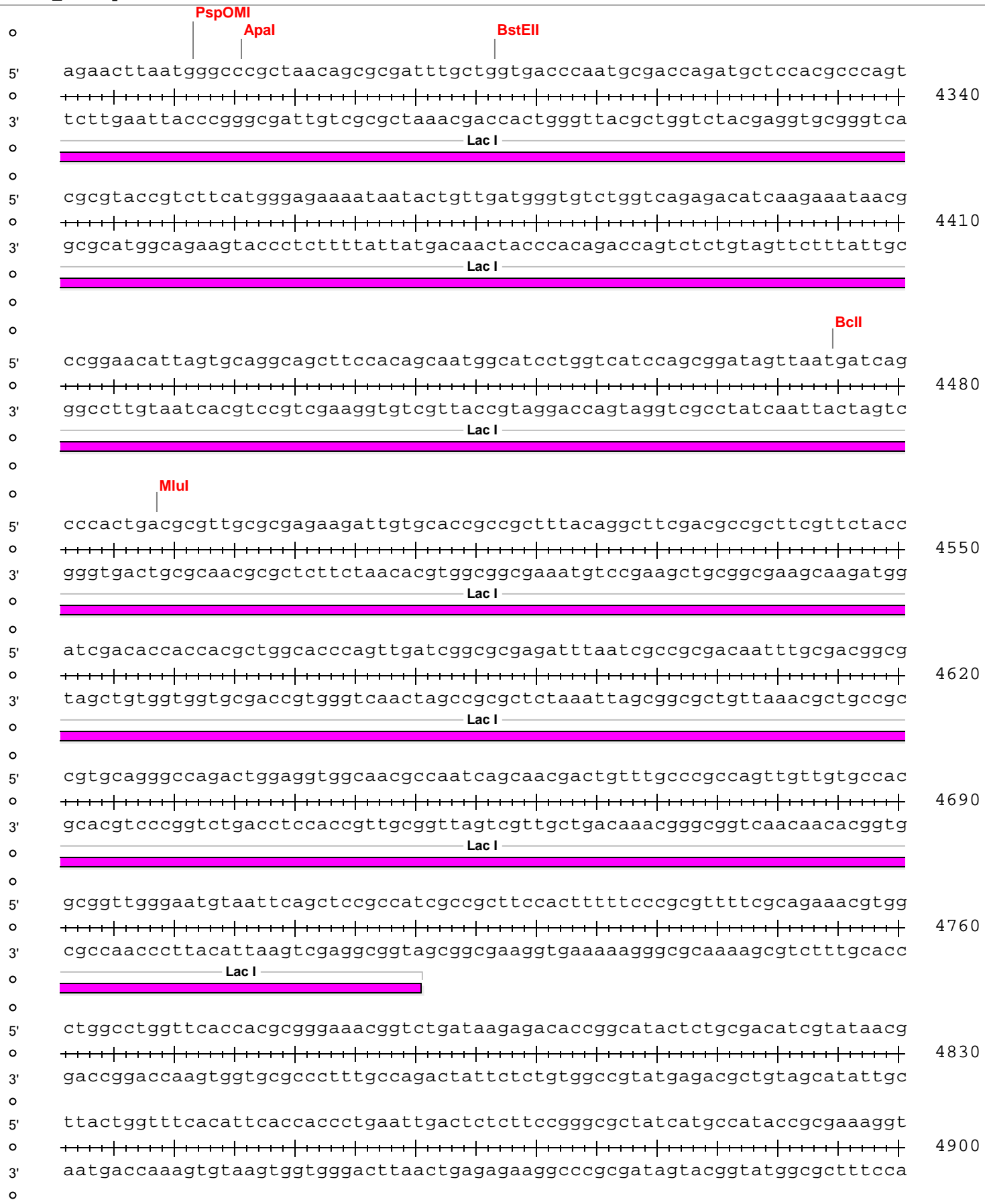
Lac I

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Lac I

5' ccgctatcggctgaatttg attgagtgagatatttatgccagccagccagacgcagacgcgcggagac 4270  
 0 ++++++  
 3' ggcgatagccgactaaactaacgctcactctataaatacgggtcggtcggtctgcgtctgcgcggctctg

Lac I



o  
 5' tttgcgccattc gatgggtgtccgggatctcgacgctctcccttatgcgactcctgcattaggaagcagcc 4970  
 o  
 3' aaacgcggttaagctaccacagggccttagagctgcgagaggggaatacgcctgaggacgtaatccttcgtcgg

EcoNI

SphI

o  
 5' cagtagtaggttgaggccgttgagcaccgcccgcgaaggaatggtgcatgcaaggagatggcgcccaac 5040  
 o  
 3' gtcatcatccaactccggcaactcgtggcgggcggttccttaccacgtacgttcctctaccgcggttg  
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 5' agtcccccgccacggggcctgccaccatacccacgccgaaacaagcgtcctatgagcccgaagtggcgag 5110  
 o  
 3' tcagggggccggtgccccggacggtggatgggtgcccgtttgttcgagactcgggcttcaccgctc

SgrAI

o  
 5' cccgatcttccccatcgggtgatgtcggcgatataggcgccagcaaccgcacctgtggcgccggtgatgcc 5180  
 o  
 3' gggctagaaggggtagccactacagccgctatatccgcggtcgttggcgtggacaccgcggccactacgg

BglII

o  
 5' ggccacgatg cgtccggcgtagaggatcgagatctcgatcccgcgaaattaatacgactcactatagggg 5250  
 o  
 3' ccggtgctacgcaggccgc atctccttagctctagagctagggcgctttaattatgctgagtgatatcccc

————— T7 Promoter —————

XbaI

BamI

NcoI

o  
 5' aattgtgagcggataacaattcccctctagaataattttgtttaactttaagaaggagatataccatgg 5320  
 o  
 3' ttaacactcgcctattgttaaggggagatctttattaaacaaattgaaattcttcctctatatggtacc  
 o  
 ————— Lac O —————

M  
|  
1

BamI'

NdeI

o  
 5' gccatcatcatcatcatcatcatcacagcagcggccatatcgaaggctcgtcatatgctcgaATC 5390  
 o  
 3' cggtagtagtagtagtagtagtagtagtagtgcgtcgccggtatagcttcagcagtatacagactTAG

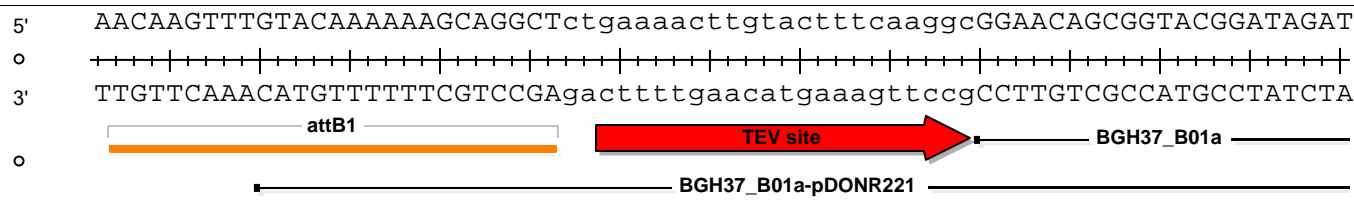
His10-tag

X-factor

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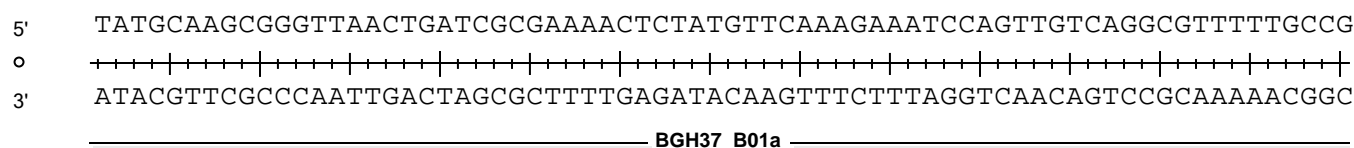


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5460

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



5530

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



5600

D S K T F V D S H P K L P L A E I A E L Y H V R  
 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95

Agel



5670

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



5740

S G F V S D T S R P V E K H I D I L W D V L T  
 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141

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NotI

5' GCCAACCGGACAGGCAGGAGGCGGGAACCCTGCTGCCCTTACCTTACCCCTATGTCGTTCCCGGCGGCCG  
 3' CGGTTGGCCTGTCCGTCTCCGCCCTTGGGACGACGGAATGGAATGGGGATACAGCAAGGGCCGCCCGGC

5810

BGH37\_B01a

BGH37\_B01a-pDONR221

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

5' CTTCCGCGAAATTTACTACTGGGACAGCTATTTACCATGCTCGGTTTGCAGGCATCGAAGCGCTGGGAT  
 3' GAAGGCGCTTTAAATGATGACCCTGTTCGATAAAGTGGTACGAGCCAAACGTCCGTAGCTTCGCGACCCTA

5880

BGH37\_B01a

BGH37\_B01a-pDONR221

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

5' CTGATGGAGGGTATGGTGAATAATTTTTCACACCTGATCGACACCATCGGCTTTATTCCCAACGGCAATC  
 3' GACTACCTCCCATACTTATTAAAAAGTGTGGACTAGCTGTGGTAGCCGAAATAAGGGTTGCCGTTAG

5950

BGH37\_B01a

BGH37\_B01a-pDONR221

L M E G M V N N F S H L I D T I G F I P N G N  
 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211

5' GCACCTATTACGAGGGCCGCTCCCAGCCGCCTTTTTACGCCCTGATGGTGGAGTTGCTGGCCAATAACA  
 3' CGTGGATAATGCTCCCGGCGAGGGTCGGCGGAAAAATGCGGGACTACCACCTCAACGACCGGTTATTTGT

6020

BGH37\_B01a

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5' GGGTGAGTCGGTGCTGCTCGCGCATTGCGCATTGCGCAGGGAATATGAATTCTGGATGGAGGGCGCC  
 3' CCCACTCAGCCACGACGAGCGCTAAACGGCGTAAACGCGTCCCTTATACTTAAGACCTACCTCCC GCGG

6090

BGH37\_B01a

BGH37\_B01a-pDONR221

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

BGH37\_B01a-pET16-DEST

5' GCTAAACTTTTCGCCCGCTGCACCCGCGCATCGCCGTGTGGTGTCTGCTGCCGGATGGCAGCATACTCAATC  
CGATTTGAAAGCGGGCGACGTGGGCGCGTAGCGGCACACCACGACGACGGCCTACCGTCGTATGAGTTAG

6160

BGH37\_B01a

BGH37\_B01a-pDONR221

A K L S P A A P A H R R V V L L P D G S I L N  
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5' GCTACTGGGATGATATAGCCGCGCCGCGCCCGGAATCCTTCCGCGAAGACTACGAACTGGCGGAAGCCAT  
CGATGACCCTACTATATCGGCGCGGCGCGGGCCTTAGGAAGGCGCTTCTGATGCTTGACCGCCTTCGGTA

6230

BGH37\_B01a

BGH37\_B01a-pDONR221

R Y W D D I A A P R P E S F R E D Y E L A E A I  
282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305

5' CGGCGGCAACAAGCGCGAGCTGTACCGCCATATTCGCGCGGGCGGCGAATCCGGCTGGGACTTCAGCAGC  
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6300

BGH37\_B01a

BGH37\_B01a-pDONR221

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

5' CGCTGGTTCAAAGATGGCAATGGCATGGCCAGCATCCACACCACCGATATTATCCCGGTGGATTTGAATG  
GCGACCAAGTTTCTACCGTTACCGTACCGGTTCGTAGGTGTGGTGGCTATAATAGGGCCACCTAAACTTAC

6370

BGH37\_B01a

BGH37\_B01a-pDONR221

R W F K D G N G M A S I H T T D I I P V D L 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' CGCTGGTCTTTAACCTGGAGCGGATGCTGGCCCATATTTATGGCTTGCAGGGCGACCAGGATCAGGCCAC  
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6440

BGH37\_B01a

BGH37\_B01a-pDONR221

A L V F N L E R M L A H I Y G L Q G D Q D Q A T  
352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375

BGH37\_B01a-pET16-DEST

MfeI

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 3' CGTAATGATGGTTAACCGCCTCGTTCGCGTTTGTCCGCAACGACGCGATGACAACCTTACGCGTTCGTCCCT

6510

BGH37\_B01a

BGH37\_B01a-pDONR221

H Y Y Q L A E Q R K Q A L L R Y C W N A Q Q G  
 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398

5' TTTTCCACGATTACGATTATGTCGCCGACAAACAGACGCCGGTCATGTCGCTGGCGGCGGTTTACCCGC  
 3' AAAAAGGTGCTAATGCTAATACAGCGGCGTGTGTCTGCGGCCAGTACAGCGACCGCCGCAAATGGGCG

6580

BGH37\_B01a

BGH37\_B01a-pDONR221

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

Sall

5' TTTATTTTCAGTATGGTTCGACCAGCGCACGGGCGACCGGGTTCGCCGAACAGATAGAGGCGCATTTTATCCA  
 3' AAATAAAGTCATACCAGCTGGTTCGCGTGCCCGCTGGCCAGCGGCTTGTCTATCTCCGCGTAAAATAGGT

6650

BGH37\_B01a

BGH37\_B01a-pDONR221

L Y F S M V D Q R T G D R V A E Q I E A H F I Q  
 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' GGCGGGCGGTGTGACCACGACCCTGGCGACCACAGGCCAGCAGTGGGACGCGCCCAATGGCTGGGCGCCG  
 3' CCGCCCGCCACACTGGTGTGTTGGACCGCTGGTGTCCGGTTCGTCACCCTGCGCGGGTTACCGACCCGCGGC

6720

BGH37\_B01a

BGH37\_B01a-pDONR221

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

5' CTGCAATGGCTGACCATCCAGGGCCTGCGCAATTATCACCACAATTCAGCGGCGGAGCAGATCAAACAGC  
 3' GACGTTACCGACTGGTAGGTCCCGGACGCGTTAATAGTGGTGTAAAGTCGCCGCCTCGTCTAGTTTGTGCG

6790

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

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5' GCTGGATTGCACTCAACCAGCGCCTTTACCGCAACACCGGAAAGTTGGTGGAAAAATACAACGTCTATGA 6860

CGACCTAACGTGAGTTGGTTCGCGCAAATGGCGTTGTGGCCTTTCAACCACCTTTTTATGTTGCAGATACT

————— BGH37\_B01a —————

————— BGH37\_B01a-pDONR221 —————

R W I A L N Q R V Y R N T G K L V E K Y N V Y D

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' CCTGGATGTGGCCGCGCGGGTGGCGAATATGAATTACAGGATGGCTTCGGTTGGACCAACGGTGTCTTG 6930

GGACCTACACCGCGCCGCCACCCTTATACTTAATGTCCTACCGAAGCCAACCTGGTTGCCACAGAAC

————— BGH37\_B01a —————

————— BGH37\_B01a-pDONR221 —————

L D V A G G G G E Y E L Q D G F G W T N G V L

516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538

5' TTGCACTTACTCAACGAAAGTACACCCTAGGACCCAGCTTTCTTGTACAAAGTGGTTGATtcgaggatcc 7000

AACGTGAATGAGTTGCTTTCATGTGGGATCCTGGGTCGAAAGAACATGTTTCACCAACTAagctcctagg

————— BGH37\_B01a ————— attB2

————— BGH37\_B01a-pDONR221 —————

L H L L N E S T P

539 540 541 542 543 544 545 546 547 548

5' ggctgctaacaagcccgaaaggaagctgagttggctgctgccaccgctgagcaataactagcataacc 7070

ccgacgattgtttcgggctttccttcgactcaaccgacgacggtgccgactcgattatgatcgattggg

————— T7 Terminator —————

cttggggcctctaacgggtcttgaggggttttttggctgaaaggaggaactatataccggatatcccgcaa 7140

gaaccccgagatttgcccagaactccccaaaaaacgactttcctccttgatataggcctatagggcggt

————— T7 Terminator —————

5' gaggccggcagctaccggcataaccaagcctatgcctacagcatccagggtgacggtgccgaggatgacg 7210

ctccgggccgctcatggccgtattggttcggatacggatgtcgtaggtcccactgccacggctcctactgc

5' atgagcgcatgttagatttcatacacggtgccctgactgcgtagcaatttaactgtgataaactaccgc 7280

tactcgcgtaacaatctaaagtatgtgccacggactgacgcaatcgtaaattgacactatgtgatggcg

o            **HindIII**       **ClaI**  
              |            |  
5'    attaaagcttattcgatgataagctgtcaaacatgagaa  
o    +++++|++++|++++|++++|++++|++++|++++|++++|  
3'    taatttcgaatagctactattcgacagtttgtactctt  
o

7318