```
5'  tggcgaatgggacgcgccctgtagcggcgcattaagcgcggcgggtgtggtggttacgcgcagcgtgacc
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  70
3'  accgcttaccctgcgcgggacatcgccgcgtaattcgcgccgcccacaccaccaatgcgcgtcgcactgg

5'  gctacacttgccagcgccctagcgcccgctcctttcgctttcttcccttcctttctcgccacgttcgccg
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  140
3'  cgatgtgaacggtcgcgggatcgcgggcgaggaaagcgaaagaagggaaggaaagagcggtgcaagcggc

5'  gctttccccgtcaagctctaaatcgggggctccctttagggttccgatttagtgctttacggcacctcga
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  210
3'  cgaaaggggcagttcgagatttagcccccgagggaaatcccaaggctaaatcacgaaatgccgtggagct

                                          DraIII
                                          |
5'  ccccaaaaaacttgattagggtgatggttcacgtagtgggccatcgccctgatagacggtttttcgccct
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  280
3'  ggggtttttgaactaatcccactaccaagtgcatcacccggtagcgggactatctgccaaaaagcggga

5'  ttgacgttggagtccacgttctttaatagtggactcttgttccaaactggaacaacactcaaccctatct
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  350
3'  aactgcaacctcaggtgcaagaaattatcacctgagaacaaggtttgaccttgttgtgagttgggataga

                          PsiI
                          |
5'  cggtctattcttttgatttataagggattttgccgatttcggcctattggttaaaaaatgagctgattta
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  420
3'  gccagataagaaaactaaatattccctaaaacggctaaagccggataaccaatttttactcgactaaat

5'  acaaaaatttaacgcgaattttaacaaaatattaacgcttacaatttaggtggcacttttcggggaaatg
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  490
3'  tgtttttaaattgcgcttaaaattgttttataattgcgaatgttaaatccaccgtgaaaagcccctttac

5'  tgcgcggaacccctatttgtttatttttctaaatacattcaaatatgtatccgctcatgagacaataacc
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  560
3'  acgcgccttggggataaacaaataaaaagatttatgtaagtttatacataggcgagtactctgttattgg

5'  ctgataaatgcttcaataatattgaaaaaggaagagtatgagtattcaacatttccgtgtcgcccttatt
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  630
3'  gactatttacgaagttattataactttttccttctcatactcataagttgtaaaggcacagcgggaataa
                                                  [Ap]

5'  ccctttttgcggcattttgccttcctgtttttgctcacccagaaacgctggtgaaagtaaaagatgctg
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  700
3'  gggaaaaaacgccgtaaaacggaaggacaaaaacgagtgggtctttgcgaccactttcattttctacgac
    [Ap]

5'  aagatcagttgggtgcacgagtgggttacatcgaactggatctcaacagcggtaagatccttgagagttt
    ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  770
3'  ttctagtcaacccacgtgctcacccaatgtagcttgacctagagttgtcgccattctaggaactctcaaa
    [Ap]
```

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5'  tcgccccgaagaacgttttccaatgatgagcacttttaaagttctgctatgtggcgcggtattatcccgt
                                                                      840
3'  agcggggcttcttgcaaaaggttactactcgtgaaaatttcaagacgatacaccgcgccataatagggca
                                  Ap

                                                          ScaI
5'  attgacgccgggcaagagcaactcggtcgccgcatacactattctcagaatgacttggttgagtactcac
                                                                      910
3'  taactgcggcccgttctcgttgagccagcggcgtatgtgataagagtcttactgaaccaactcatgagtg
                                  Ap

5'  cagtcacagaaaagcatcttacggatggcatgacagtaagagaattatgcagtgctgccataaccatgag
                                                                      980
3'  gtcagtgtcttttcgtagaatgcctaccgtactgtcattctcttaatacgtcacgacggtattggtactc
                                  Ap

5'  tgataacactgcggccaacttacttctgacaacgatcggaggaccgaaggagctaaccgctttttgcac
                                                                     1050
3'  actattgtgacgccggttgaatgaagactgttgctagcctcctggcttcctcgattggcgaaaaaacgtg
                                  Ap

5'  aacatgggggatcatgtaactcgccttgatcgttgggaaccggagctgaatgaagccataccaaacgacg
                                                                     1120
3'  ttgtacccccctagtacattgagcggaactagcaacccttggcctcgacttacttcggtatggtttgctgc
                                  Ap

                          PstI
5'  agcgtgacaccacgatgcctgcagcaatggcaacaacgttgcgcaaactattaactggcgaactacttac
                                                                     1190
3'  tcgcactgtggtgctacggacgtcgttaccgttgttgcaacgcgtttgataattgaccgcttgatgaatg
                                  Ap

5'  tctagcttcccggcaacaattaatagactggatggaggcggataaagttgcaggaccacttctgcgctcg
                                                                     1260
3'  agatcgaagggccgttgttaattatctgacctacctccgcctatttcaacgtcctggtgaagacgcgagc
                                  Ap

5'  gcccttccggctggctggtttattgctgataaatctggagccggtgagcgtgggtctcgcggtatcattg
                                                                     1330
3'  cgggaaggccgaccgaccaaataacgactatttagacctcggccactcgcacccagagcgccatagtaac
                                  Ap

                                                          AhdI
5'  cagcactggggccagatggtaagccctcccgtatcgtagttatctacacgacggggagtcaggcaactat
                                                                     1400
3'  gtcgtgaccccggtctaccattcgggagggcatagcatcaatagatgtgctgcccctcagtccgttgata
                                  Ap
```

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5'  ggatgaacgaaatagacagatcgctgagataggtgcctcactgattaagcattggtaactgtcagaccaa
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  1470
3'  cctacttgctttatctgtctagcgactctatccacggagtgactaattcgtaaccattgacagtctggtt
o   ==========================================================================
                                   Ap
o
5'  gtttactcatatatactttagattgatttaaaacttcatttttaatttaaaaggatctaggtgaagatcc
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  1540
3'  caaatgagtatatatgaaatctaactaaattttgaagtaaaaattaaattttcctagatccacttctagg
o
5'  tttttgataatctcatgaccaaaatcccttaacgtgagttttcgttccactgagcgtcagaccccgtaga
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  1610
3'  aaaaactattagagtactggttttagggaattgcactcaaaagcaaggtgactcgcagtctggggcatct
o
5'  aaagatcaaaggatcttcttgagatccttttttctgcgcgtaatctgctgcttgcaaacaaaaaaacca
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  1680
3'  tttctagtttcctagaagaactctaggaaaaaaagacgcgcattagacgacgaacgtttgtttttttggt
o                                  Ori
o
5'  ccgctaccagcggtggtttgtttgccggatcaagagctaccaactctttttccgaaggtaactggcttca
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  1750
3'  ggcgatggtcgccaccaaacaaacggcctagttctcgatggttgagaaaaaggcttccattgaccgaagt
o                                  Ori
o
5'  gcagagcgcagataccaaatactgtccttctagtgtagccgtagttaggccaccacttcaagaactctgt
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  1820
3'  cgtctcgcgtctatggtttatgacaggaagatcacatcggcatcaatccggtggtgaagttcttgagaca
o                                  Ori
o
5'  agcaccgcctacatacctcgctctgctaatcctgttaccagtggctgctgccagtggcgataagtcgtgt
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  1890
3'  tcgtggcggatgtatggagcgagacgattaggacaatggtcaccgacgacggtcaccgctattcagcaca
o                                  Ori
o
5'  cttaccgggttggactcaagacgatagttaccggataaggcgcagcggtcgggctgaacggggggttcgt
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  1960
3'  gaatggcccaacctgagttctgctatcaatggcctattccgcgtcgccagcccgacttgccccccaagca
o                                  Ori
o
5'  gcacacagcccagcttggagcgaacgacctacaccgaactgagatacctacagcgtgagctatgagaaag
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  2030
3'  cgtgtgtcgggtcgaacctcgcttgctggatgtggcttgactctatggatgtcgcactcgatactctttc
o                                  Ori
o
5'  cgccacgcttcccgaagggagaaaggcggacaggtatccggtaagcggcagggtcggaacaggagagcgc
o   +++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|+++++|  2100
3'  gcggtgcgaagggcttccctctttccgcctgtccataggccattcgccgtcccagccttgtcctctcgcg
o                                  Ori
o
```

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5'  acgagggagcttccagggggaaacgcctggtatctttatagtcctgtcgggtttcgccacctctgacttg
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2170
3'  tgctccctcgaaggtcccccttttgcggaccatagaaatatcaggacagcccaaagcggtggagactgaac
o                                   Ori
o
5'  agcgtcgatttttgtgatgctcgtcaggggggcggagcctatggaaaaacgccagcaacgcggcctttttt
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2240
3'  tcgcagctaaaaacactacgagcagtcccccgcctcggatacctttttgcggtcgttgcgccggaaaaa
o                                   Ori
o
o                                      PciI
5'  acggttcctggccttttgctggccttttgctcacatgttctttcctgcgttatcccctgattctgtggat
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2310
3'  tgccaaggaccggaaaacgaccggaaaacgagtgtacaagaaaggacgcaatagggactaagacaccta
o
5'  aaccgtattaccgcctttgagtgagctgataccgctcgccgcagccgaacgaccgagcgcagcgagtcag
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2380
3'  ttggcataatggcggaaactcactcgactatggcgagcggcgtcggcttgctggctcgcgtcgctcagtc
o
o              SapI
5'  tgagcgaggaagcggaagagcgcctgatgcggtattttctccttacgcatctgtgcggtatttcacaccg
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2450
3'  actcgctccttcgccttctcgcggactacgccataaaagaggaatgcgtagacacgccataaagtgtggc
o
o                                                          BstZ17I
5'  catatatggtgcactctcagtacaatctgctctgatgccgcatagttaagccagtatacactccgctatc
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2520
3'  gtatataccacgtgagagtcatgttagacgagactacggcgtatcaattcggtcatatgtgaggcgatag
o
o               Tth111I
5'  gctacgtgactgggtcatggctgcgccccgacacccgccaacacccgctgacgcgccctgacgggcttgt
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2590
3'  cgatgcactgacccagtaccgacgcggggctgtgggcggttgtgggcgactgcgcgggactgcccgaaca
o
5'  ctgctcccggcatccgcttacagacaagctgtgaccgtctccgggagctgcatgtgtcagaggttttcac
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2660
3'  gacgagggccgtaggcgaatgtctgttcgacactggcagaggccctcgacgtacacagtctccaaaagtg
o
5'  cgtcatcaccgaaacgcgcgaggcagctgcggtaaagctcatcagcgtggtcgtgaagcgattcacagat
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2730
3'  gcagtagtggctttgcgcgctccgtcgacgccatttcgagtagtcgcaccagcacttcgctaagtgtcta
o
5'  gtctgcctgttcatccgcgtccagctcgttgagtttctccagaagcgttaatgtctggcttctgataaag
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2800
3'  cagacggacaagtaggcgcaggtcgagcaactcaaagaggtcttcgcaattacagaccgaagactatttc
o
5'  cgggccatgttaagggcggtttttcctgtttggtcactgatgcctccgtgtaagggggatttctgttca
o   ----|----|----|----|----|----|----|----|----|----|----|----|----|----|  2870
3'  gcccggtacaattcccgccaaaaaaggacaaaccagtgactacggaggcacattccccctaaagacaagt
o
```

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5'  tgggggtaatgataccgatgaaacgagagaggatgctcacgatacgggttactgatgatgaacatgcccg
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  2940
3'  acccccattactatggctactttgctctctcctacgagtgctatgcccaatgactactacttgtacgggc
o

5'  gttactggaacgttgtgagggtaaacaactggcggtatggatgcggcgggaccagagaaaaatcactcag
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3010
3'  caatgaccttgcaacactcccatttgttgaccgccatacctacgccgccctggtctctttttagtgagtc
o

5'  ggtcaatgccagcgcttcgttaatacagatgtaggtgttccacagggtagccagcagcatcctgcgatgc
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3080
3'  ccagttacggtcgcgaagcaattatgtctacatccacaaggtgtcccatcggtcgtcgtaggacgctacg
o

5'  agatccggaacataatggtgcagggcgctgacttccgcgtttccagactttacgaaacacggaaaccgaa
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3150
3'  tctaggccttgtattaccacgtcccgcgactgaaggcgcaaaggtctgaaatgctttgtgcctttggctt
o

                        Bpu10I
o                       |
5'  gaccattcatgttgttgctcaggtcgcagacgttttgcagcagcagtcgcttcacgttcgctcgcgtatc
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3220
3'  ctggtaagtacaacaacgagtccagcgtctgcaaaacgtcgtcgtcagcgaagtgcaagcgagcgcatag
o

5'  ggtgattcattctgctaaccagtaaggcaaccccgccagcctagccgggtcctcaacgacaggagcacga
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3290
3'  ccactaagtaagacgattggtcattccgttggggcggtcggatcggcccaggagttgctgtcctcgtgct
o

        FspAI
o       |
5'  tcatgcgcacccgtggggccgccatgccggcgataatggcctgcttctcgccgaaacgtttggtggcggg
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3360
3'  agtacgcgtgggcaccccggcggtacggccgctattaccggacgaagagcggctttgcaaaccaccgccc
o

5'  accagtgacgaaggcttgagcgagggcgtgcaagattccgaataccgcaagcgacaggccgatcatcgtc
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3430
3'  tggtcactgcttccgaactcgctcccgcacgttctaaggcttatggcgttcgctgtccggctagtagcag
o

5'  gcgctccagcgaaagcggtcctcgccgaaaatgacccagagcgctgccggcacctgtcctacgagttgca
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3500
3'  cgcgaggtcgctttcgccaggagcggcttttactgggtctcgcgacggccgtggacaggatgctcaacgt
o

5'  tgataaagaagacagtcataagtgcggcgacgatagtcatgccccgcgcccaccggaaggagctgactgg
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3570
3'  actatttcttctgtcagtattcacgccgctgctatcagtacggggcgcgggtggccttcctcgactgacc
o

5'  gttgaaggctctcaagggcatcggtcgagatcccggtgcctaatgagtgagctaacttacattaattgcg
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3640
3'  caacttccgagagttcccgtagccagctctagggccacggattactcactcgattgaatgtaattaacgc
o

5'  ttgcgctcactgcccgctttccagtcgggaaacctgtcgtgccagctgcattaatgaatcggccaacgcg
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3710
3'  aacgcgagtgacgggcgaaaggtcagccctttggacagcacggtcgacgtaattacttagccggttgcgc
o           |                                   Lac I                      |
            <==========================================================>
o
```

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5'  cggggagaggcggtttgcgtattgggcgccagggtggtttttcttttcaccagtgagacgggcaacagct
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3780
3'  gcccctctccgccaaacgcataacccgcggtcccaccaaaaagaaaagtggtcactctgcccgttgtcga
o                                   Lac I
o
5'  gattgcccttcaccgcctggccctgagagagttgcagcaagcggtccacgctggtttgccccagcaggcg
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3850
3'  ctaacgggaagtggcggaccgggactctctcaacgtcgttcgccaggtgcgaccaaacggggtcgtccgc
o                                   Lac I
o
o                          HpaI
5'  aaaatcctgtttgatggtggttaacggcgggatataacatgagctgtcttcggtatcgtcgtatcccact
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3920
3'  ttttaggacaaactaccaccaattgccgccctatattgtactcgacagaagccatagcagcatagggtga
o                                   Lac I
o
5'  accgagatgtccgcaccaacgcgcagcccggactcggtaatggcgcgcattgcgcccagcgccatctgat
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  3990
3'  tggctctacaggcgtggttgcgcgtcgggcctgagccattaccgcgcgtaacgcgggtcgcggtagacta
o                                   Lac I
o
5'  cgttggcaaccagcatcgcagtgggaacgatgccctcattcagcatttgcatggtttgttgaaaaccgga
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  4060
3'  gcaaccgttggtcgtagcgtcacccttgctacgggagtaagtcgtaaacgtaccaaacaacttttggcct
o                                   Lac I
o
5'  catggcactccagtcgccttcccgttccgctatcggctgaatttgattgcgagtgagatatttatgccag
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  4130
3'  gtaccgtgaggtcagcggaagggcaaggcgatagccgacttaaactaacgctcactctataaatacggtc
o                                   Lac I
o
o                                          PspOMI
                                              ApaI
5'  ccagccagacgcagacgcgccgagacagaacttaatgggcccgctaacagcgcgatttgctggtgaccca
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  4200
3'  ggtcggtctgcgtctgcgcggctctgtcttgaattacccgggcgattgtcgcgctaaacgaccactgggt
o                                   Lac I
o
5'  atgcgaccagatgctccacgcccagtcgcgtaccgtcttcatgggagaaaataatactgttgatgggtgt
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  4270
3'  tacgctggtctacgaggtgcgggtcagcgcatggcagaagtaccctcttttattatgacaactacccaca
o                                   Lac I
o
5'  ctggtcagagacatcaagaaataacgccggaacattagtgcaggcagcttccacagcaatggcatcctgg
o   ++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|++++|  4340
3'  gaccagtctctgtagttctttattgcggccttgtaatcacgtccgtcgaaggtgtcgttaccgtaggacc
o                                   Lac I
o
```

MluI

5' tcatccagcggatagttaatgatcagcccactgacgcgttgcgcgagaagattgtgcaccgccgctttac 4410
3' agtaggtcgcctatcaattactagtcgggtgactgcgcaacgcgctcttctaacacgtggcggcgaaatg

Lac I

5' aggcttcgacgccgcttcgttctaccatcgacaccaccacgctggcacccagttgatcggcgcgagattt 4480
3' tccgaagctgcggcgaagcaagatggtagctgtggtggtgcgaccgtgggtcaactagccgcgctctaaa

Lac I

5' aatcgccgcgacaatttgcgacggcgcgtgcagggccagactggaggtggcaacgccaatcagcaacgac 4550
3' ttagcggcgctgttaaacgctgccgcgcacgtcccggtctgacctccaccgttgcggttagtcgttgctg

Lac I

5' tgtttgcccgccagttgttgtgccacgcggttgggaatgtaattcagctccgccatcgccgcttccactt 4620
3' acaaacgggcggtcaacaacacggtgcgccaacccttacattaagtcgaggcggtagcggcgaaggtgaa

Lac I

5' tttcccgcgttttcgcagaaacgtggctggcctggttcaccacgcgggaaacggtctgataagagacacc 4690
3' aaagggcgcaaaagcgtctttgcaccgaccggaccaagtggtgcgccctttgccagactattctctgtgg

BstAPI

5' ggcatactctgcgacatcgtataacgttactggtttcacattcaccaccctgaattgactctcttccggg 4760
3' ccgtatgagacgctgtagcatattgcaatgaccaaagtgtaagtggtgggacttaactgagagaaggccc

5' cgctatcatgccataccgcgaaaggttttgcgccattcgatggtgtccgggatctcgacgctctccctta 4830
3' gcgatagtacggtatggcgctttccaaaacgcggtaagctaccacaggccctagagctgcgagagggaat

EcoNI

5' tgcgactcctgcattaggaagcagcccagtagtaggttgaggccgttgagcaccgccgccgcaaggaatg 4900
3' acgctgaggacgtaatccttcgtcgggtcatcatccaactccggcaactcgtggcggcggcgttccttac

5' gtgcatgcaaggagatggcgcccaacagtcccccggccacggggcctgccaccatacccacgccgaaaca 4970
3' cacgtacgttcctctaccgcgggttgtcagggggccggtgccccggacggtggtatgggtgcggctttgt

5' agcgctcatgagcccgaagtggcgagcccgatcttccccatcggtgatgtcggcgatataggcgccagca 5040
3' tcgcgagtactcgggcttcaccgctcgggctagaaggggtagccactacagccgctatatccgcggtcgt

SgrAI

5' accgcacctgtggcgccggtgatgccggccacgatgcgtccggcgtagaggatcgagatcgatctcgatc 5110
3' tggcgtggacaccgcggccactacggccggtgctacgcaggccgcatctcctagctctagctagagctag

XbaI

5' ccgcgaaattaatacgactcactatagggggaattgtgagcggataacaattcccctctagaaataatttt 5180
3' ggcgctttaattatgctgagtgatatcccccttaacactcgcctattgttaaggggagatctttattaaaa

T7 Promoter — Lac Operator

BarI — BarI'

5' gtttaactttaagaaggagatatacatatgagcgataaaattattcacctgactgacgacagttttgaca 5250
3' caaattgaaattcttcctctatatgtatactcgctattttaataagtggactgactgctgtcaaaactgt

Trx Tag

M S D K I I H L T D D S F D
1 2 3 4 5 6 7 8 9 10 11 12 13 14

RsrII

5' cggatgtactcaaagcggacggggcgatcctcgtcgatttctgggcagagtggtgcggtccgtgcaaaat 5320
3' gcctacatgagtttcgcctgccccgctaggagcagctaaagacccgtctcaccacgccaggcacgtttta

Trx Tag

T D V L K A D G A I L V D F W A E W C G P C K M
15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

5' gatcgccccgattctggatgaaatcgctgacgaatatcagggcaaactgaccgttgcaaaactgaacatc 5390
3' ctagcggggctaagacctactttagcgactgcttatagtcccgtttgactggcaacgttttgacttgtag

Trx Tag

I A P I L D E I A D E Y Q G K L T V A K L N I
39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61

5' gatcaaaaccctggcactgcgccgaaatatggcatccgtggtatcccgactctgctgctgttcaaaaacg 5460
3' ctagttttgggaccgtgacgcggctttataccgtaggcaccatagggctgagacgacgacaagtttttgc

Trx Tag

D Q N P G T A P K Y G I R G I P T L L L F K N
62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

5' gtgaagtggcggcaaccaaagtgggtgcactgtctaaaggtcagttgaaagagttcctcgacgctaacct 5530
3' cacttcaccgccgttggtttcacccacgtgacagatttccagtcaactttctcaaggagctgcgattgga

Trx Tag

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' ggccggttctggttctggccatatgcaccatcatcatcatcattcttctggtctggtgccacgcggttct 5600
3' ccggccaagaccaagaccggtatacgtggtagtagtagtagtaagaagaccagaccacggtgcgccaaga

T...g | His6-tag | Thrombin

A G S G S G H M H 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

5' ggtatgaaagaaaccgctgctgctaaattcgaacgccagcacatggacagcccagatctgggtaccgacg 5670
3' ccatactttctttggcgacgacgatttaagcttgcggtcgtgtacctgtcgggtctagacccatggctgc

En...e

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 5740
3' tgctgctgttccggtaccgctaTAGTTGTTCAAACATGTTTTTTCGTCCGAgacttttgaacatgaaagt

Enterokinase | attB1 | TEV site

BGH02_B02c-pDONR221

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

SgrDI

5' aggcACATCCTTGCCGAAGAACGGTTTCAACATCGACCTTTCCGGTTCGTGGCAGCTCGCCTCCGTCGAC 5810
3' tccgTGTAGGAACGGCTTCTTGCCAAAGTTGTAGCTGGAAAGGCCAAGCACCGTCGAGCGGAGGCAGCTG

T... | BGH02_B02c

BGH02_B02c-pDONR221

G T S L P K N G F N I D L S G S W Q L A S V D
179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201

5' GGCGAGATCCGCACCGCGATCATGCTGCCGGGCGACGTGCACACGGCTCTGCACCGGGCAGGATTGATCC 5880
3' CCGCTCTAGGCGTGGCGCTAGTACGACGGCCCGCTGCACGTGTGCCGAGACGTGGCCCGTCCTAACTAGG

BGH02_B02c

BGH02_B02c-pDONR221

G E I R T A I M L P G D V H T A L H R A G L 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' CCGATCCCTATTTCGGCCGCAACGAGGAAAAGGTGCAGTGGGTCGCCGAGCGCGAATGGGCGGTCGAGCG 5950
3' GGCTAGGGATAAAGCCGGCGTTGCTCCTTTTCCACGTCACCCAGCGGCTCGCGCTTACCCGCCAGCTCGC

BGH02_B02c

BGH02_B02c-pDONR221

P D P Y F G R N E E K V Q W V A E R E W A V E R
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' CAGCTTCGCGCTTCAGGAGGTCGAGGGCGACTGGTATCTCGATATCGATTATCTCGACACGGTTGCCAGC 6020
3' GTCGAAGCGCGAAGTCCTCCAGCTCCCGCTGACCATAGAGCTATAGCTAATAGAGCTGTGCCAACGGTCG

BGH02_B02c

BGH02_B02c-pDONR221

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

5' GTCCACGTCAACGGCTTTCTGGCGCTCGAAGCCGACAACAGCTTCCGCCGCTACCGGCCCGATGTCTCCA 6090
3' CAGGTGCAGTTGCCGAAAGACCGCGAGCTTCGGCTGTTGTCGAAGGCGGCGATGGCCGGGCTACAGAGGT

BGH02_B02c

BGH02_B02c-pDONR221

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

5' GCATGCTGAAATCAGGCGATAACAGCATCCGCATCGTCTTTGCCTCCAACATCGCTGTCGGTGCCGCGCG 6160
3' CGTACGACTTTAGTCCGCTATTGTCGTAGGCGTAGCAGAAACGGAGGTTGTAGCGACAGCCACGGCGCGC

BGH02_B02c

BGH02_B02c-pDONR221

S M L K S G D N S I R I V F A S N I A V G A A R
295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318

5' ACAGAAGCAGCAGCCCTTCTACATTCCCTACAGCACGGGCAACTCACCGATCCCCGACGGCAACATGCTG 6230
3' TGTCTTCGTCGTCGGGAAGATGTAAGGGATGTCGTGCCCGTTGAGTGGCTAGGGGCTGCCGTTGTACGAC

BGH02_B02c

BGH02_B02c-pDONR221

Q K Q Q P F Y I P Y S T G N S P I P D G N M L
319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341

5' CGCAAGCCGCAATGCCATTTCGGCTGGGACTGGAACATCGCCATTGCCCCGCTCGGTCTTTACGGAACGA 6300
3' GCGTTCGGCGTTACGGTAAAGCCGACCCTGACCTTGTAGCGGTAACGGGGCGAGCCAGAAATGCCTTGCT

BGH02_B02c

BGH02_B02c-pDONR221

R K P Q C H F G W D W N I A I A P L G L Y G T
342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364

5' TCGCGCTGAAAAAGCTCGAAACGGCGCGCATCGAACACGTCGTCACCCGCCAGACCCACAATAATGACGG 6370
3' AGCGCGACTTTTTCGAGCTTTGCCGCGCGTAGCTTGTGCAGCAGTGGGCGGTCTGGGTGTTATTACTGCC

BGH02_B02c

BGH02_B02c-pDONR221

I A L K K L E T A R I E H V V T R Q T H N N D 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

5' TTCGGTCGACCTCAAAGTGACGGCGACGCTGTTTTCCAAGGGGCCAGACATTGCCCAGGTCTATTTCGAC 6440
3' AAGCCAGCTGGAGTTTCACTGCCGCTGCGACAAAAGGTTCCCCGGTCTGTAACGGGTCCAGATAAAGCTG

BGH02_B02c

BGH02_B02c-pDONR221

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

5' CTCGATGGCGAGCGCGTGCGCCTGGATGTCGGCGTCAATGGCGAGACCCATGTCAACCATCTCTTCCATA 6510
3' GAGCTACCGCTCGCGCACGCGGACCTACAGCCGCAGTTACCGCTCTGGGTACAGTTGGTAGAGAAGGTAT

BGH02_B02c

BGH02_B02c-pDONR221

L D G E R V R L D V G V N G E T H V N H L F H
412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434

```
5'  TCGACAATCCGCGCCTCTGGTGGCCCTCCGGCAGCGGCGAGCAGGCGCTCTACAGGCTTTCCGTCGAATT
                                                                        6580
3'  AGCTGTTAGGCGCGGAGACCACCGGGAGGCCGTCGCCGCTCGTCCGCGAGATGTCCGAAAGGCAGCTTAA
```

BGH02_B02c

BGH02_B02c-pDONR221

```
I   D   N   P   R   L   W   W   P   S   G   S   G   E   Q   A   L   Y   R   L   S   V   E   L
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'  GCCGACGGATGAGGTGACCAAGCAGATCGGTCTTCGCACCATCGAGCTGATCACCACGCCGGATGCGGCC
                                                                        6650
3'  CGGCTGCCTACTCCACTGGTTCGTCTAGCCAGAAGCGTGGTAGCTCGACTAGTGGTGCGGCCTACGCCGG
```

BGH02_B02c

BGH02_B02c-pDONR221

```
P   T   D   E   V   T   K   Q   I   G   L   R   T   I   E   L   I   T   T   P   D   A   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'  GGCAGCCGCTTTGCCTTCAAGGTCAACGGCCGCGAGATCTTTTGCCGCGGCGCCAACTGGATCCCGGCCG
                                                                        6720
3'  CCGTCGGCGAAACGGAAGTTCCAGTTGCCGGCGCTCTAGAAAACGGCGCCGCGGTTGACCTAGGGCCGGC
```

BGH02_B02c

BGH02_B02c-pDONR221

```
G   S   R   F   A   F   K   V   N   G   R   E   I   F   C   R   G   A   N   W   I   P   A
482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504

                                                            BspMI
5'  ACGCGCTGTTTTCGCTGTCTTCACCTGAGAAGACCGAAGACCTGCTGCAATCGGCCAAAGCCGCCAACAT
                                                                        6790
3'  TGCGCGACAAAAGCGACAGAAGTGGACTCTTCTGGCTTCTGGACGACGTTAGCCGGTTTCGGCGGTTGTA
```

BGH02_B02c

BGH02_B02c-pDONR221

```
D   A   L   F   S   L   S   S   P   E   K   T   E   D   L   L   Q   S   A   K   A   A   N   M
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'  GAACATGATCCGTGTCTGGGGCGGCGGCTTCTATGAGCAGGATCATTTCTACGATCTCTGCGACCGGCTG
                                                                        6860
3'  CTTGTACTAGGCACAGACCCCGCCGCCGAAGATACTCGTCCTAGTAAAGATGCTAGAGACGCTGGCCGAC
```

BGH02_B02c

BGH02_B02c-pDONR221

```
N   M   I   R   V   W   G   G   G   F   Y   E   Q   D   H   F   Y   D   L   C   D   R   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'  GGCCTTATGGTCTGGCAGGACTTCATGTTTGCCTGCAACCTCTATCCGTCGACCGAGGACTTTCTCGACA
                                                                          6930
3'  CCGGAATACCAGACCGTCCTGAAGTACAAACGGACGTTGGAGATAGGCAGCTGGCTCCTGAAAGAGCTGT
```

BGH02_B02c

BGH02_B02c-pDONR221

```
G  L  M  V  W  Q  D  F  M  F  A  C  N  L  Y  P  S  T  E  D  F  L  D
552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574

5'  ATGTGACGATCGAGGTCGACTACCAGGTGCGCCGGCTCTCCTCGCATGCCTCGATCGTGCTCTGGTGCGG
                                                                          7000
3'  TACACTGCTAGCTCCAGCTGATGGTCCACGCGGCCGAGAGGAGCGTACGGAGCTAGCACGAGACCACGCC
```

BGH02_B02c

BGH02_B02c-pDONR221

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

NruI

```
5'  CGACAATGAACTGGTCGGAGCGCTCACCTGGTTCGAGGAATCGCGGAAGGATCGCGACCGCTATCTCGTC
                                                                          7070
3'  GCTGTTACTTGACCAGCCTCGCGAGTGGACCAAGCTCCTTAGCGCCTTCCTAGCGCTGGCGATAGAGCAG
```

BGH02_B02c

BGH02_B02c-pDONR221

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

5'  TCTTATGATCGCCTCAACCGCACGATCGAGCAGGCAGTGAAAAAGGCGCTGCCCGGCGCGGTCTGGTGGC
                                                                          7140
3'  AGAATACTAGCGGAGTTGGCGTGCTAGCTCGTCCGTCACTTTTTCCGCGACGGGCCGCGCCAGACCACCG
```

BGH02_B02c

BGH02_B02c-pDONR221

```
S  Y  D  R  L  N  R  T  I  E  Q  A  V  K  K  A  L  P  G  A  V  W  W
622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644

5'  CGTCGAGCCCGGCCTCCGGCTATCTCGATTTCGGCGATGCCTGGCATGCGGACGGGTCCGGCGACATGCA
                                                                          7210
3'  GCAGCTCGGGCCGGAGGCCGATAGAGCTAAAGCCGCTACGGACCGTACGCCTGCCCAGGCCGCTGTACGT
```

BGH02_B02c

BGH02_B02c-pDONR221

```
P  S  S  P  A  S  G  Y  L  D  F  G  D  A  W  H  A  D  G  S  G  D  M  H
645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668
```

NsiI

5' TTACTGGTCGGTCTGGCACGAGAACAAGTCGTTCGACAATTACCGCTCGGTGCGTCCGCGCTTCTGCTCG 7280
3' AATGACCAGCCAGACCGTGCTCTTGTTCAGCAAGCTGTTAATGGCGAGCCACGCAGGCGCGAAGACGAGC

BGH02_B02c

BGH02_B02c-pDONR221

Y W S V W H E N K S F D N Y R S V R P R F C S
669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691

5' GAATTCGGCTTCCAGTCCTATACGTCGCTGCCTGTGATCAAGACCTATGCCGAGGCGAAAGACATGAACG 7350
3' CTTAAGCCGAAGGTCAGGATATGCAGCGACGGACACTAGTTCTGGATACGGCTCCGCTTTCTGTACTTGC

BGH02_B02c

BGH02_B02c-pDONR221

E F G F Q S Y T S L P V I K T Y A E A K D M N
692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714

BsmI

5' TCGCTTCCCCGGTCATGGAGCTGCACCAGAAGAATGCCGGCGGCAACGAGCGCATCGCCGGCACGATGTT 7420
3' AGCGAAGGGGCCAGTACCTCGACGTGGTCTTCTTACGGCCGCCGTTGCTCGCGTAGCGGCCGTGCTACAA

BGH02_B02c

BGH02_B02c-pDONR221

V A S P V M E L H Q K N A G G N E R I A G T M F
715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738

5' CCGTTATTTCCGATTCCCCAAGGATTTCCCGAACTTCGTCTATCTCTCCCAGATCCAACAGGGGCTGGCG 7490
3' GGCAATAAAGGCTAAGGGGTTCCTAAAGGGCTTGAAGCAGATAGAGAGGGTCTAGGTTGTCCCCGACCGC

BGH02_B02c

BGH02_B02c-pDONR221

R Y F R F P K D F P N F V Y L S Q I Q Q G L A
739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761

5' ATCAAGACGGCGGTGGAATACTGGCGGTCGCTCAAACCCCATTGCATGGGCACGATCTACTGGCAGCTCA 7560
3' TAGTTCTGCCGCCACCTTATGACCGCCAGCGAGTTTGGGGTAACGTACCCGTGCTAGATGACCGTCGAGT

BGH02_B02c

BGH02_B02c-pDONR221

I K T A V E Y W R S L K P H C M G T I Y W Q L
762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784

5' ACGACACCTGGCCGGTCGCCTCCTGGTCGAGCCTCGACTATGGCGGCCGCTGGAAGGCGATGCACTATCT 7630
3' TGCTGTGGACCGGCCAGCGGAGGACCAGCTCGGAGCTGATACCGCCGGCGACCTTCCGCTACGTGATAGA

BGH02_B02c

BGH02_B02c-pDONR221

N D T W P V A S W S S L D Y G G R W K A M H Y L
785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808

5' CGTCAAGCGCTTCTTCCAGCCGGTCGCGGTCGCGGCCATTCCTTCCGACGACGGAAAGACGATTCGCTTC 7700
3' GCAGTTCGCGAAGAAGGTCGGCCAGCGCCAGCGCCGGTAAGGAAGGCTGCTGCCTTTCTGCTAAGCGAAG

BGH02_B02c

BGH02_B02c-pDONR221

V K R F F Q P V A V A A I P S D D G K T I R F
809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831

5' TCGCTGGTCAACGACACGCTTGCCGATGTCAGCGTCGACCTTTCGATCTCGCTGCTGACGATGCAGGGCG 7770
3' AGCGACCAGTTGCTGTGCGAACGGCTACAGTCGCAGCTGGAAAGCTAGAGCGACGACTGCTACGTCCCGC

BGH02_B02c

BGH02_B02c-pDONR221

S L V N D T L A D V S V D L S I S L L T M Q G
832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854

5' AACGCCGGCACCTGAGAGACGTACAGGCCATATGTTCGCCGGATGCGGCCGTCACTGCCACGAGCATCGA 7840
3' TTGCGGCCGTGGACTCTCTGCATGTCCGGTATACAAGCGGCCTACGCCGGCAGTGACGGTGCTCGTAGCT

BGH02_B02c

BGH02_B02c-pDONR221

E R R H L R D V Q A I C S P D A A V T A T S I D
855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878

5' CGTTTCCGATATTCCCGAGGGAACGTTGCTTGCCTGGCGTTTCACCGCGTCGAACGGCACGGGCGGCGAG 7910
3' GCAAAGGCTATAAGGGCTCCCTTGCAACGAACGGACCGCAAAGTGGCGCAGCTTGCCGTGCCCGCCGCTC

BGH02_B02c

BGH02_B02c-pDONR221

V S D I P E G T L L A W R F T A S N G T G G E
879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901

```
5'  GGGCACCATGTCAACGGTACCTACAAGGCGCTGGAGCTGGAACCCGCGGGGCTGACAGTCACCCACGAAT
                                                                      7980
3'  CCCGTGGTACAGTTGCCATGGATGTTCCGCGACCTCGACCTTGGGCGCCCCGACTGTCAGTGGGTGCTTA
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BGH02_B02c

BGH02_B02c-pDONR221

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G   H   H   V   N   G   T   Y   K   A   L   E   L   E   P   A   G   L   T   V   T   H   E
902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924

5'  ATGTCGAGGAGAATGGCTCGGTCGACATCAACGTCACCGCGAAGGGACTTGCGCTTTTCGTGATGATCGA
                                                                      8050
3'  TACAGCTCCTCTTACCGAGCCAGCTGTAGTTGCAGTGGCGCTTCCCTGAACGCGAAAAGCACTACTAGCT
```

BGH02_B02c

BGH02_B02c-pDONR221

```
Y   V   E   E   N   G   S   V   D   I   N   V   T   A   K   G   L   A   L   F   V   M   I   E
925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948

5'  AACCGAGACCGACGGCAAATATTCCGACAACGCCTTCGATCTTGCGGCCGGCGAGAGCCGCCGCATCGCC
                                                                      8120
3'  TTGGCTCTGGCTGCCGTTTATAAGGCTGTTGCGGAAGCTAGAACGCCGGCCGCTCTCGGCGGCGTAGCGG
```

BGH02_B02c

BGH02_B02c-pDONR221

```
T   E   T   D   G   K   Y   S   D   N   A   F   D   L   A   A   G   E   S   R   R   I   A
949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971

5'  TTTACCCCGGCACGGCCGCTCGATCGTGGCGCGCTTCCGGAGTTCCGGTTCTACGACCTGTATTCCTGCC
                                                                      8190
3'  AAATGGGGCCGTGCCGGCGAGCTAGCACCGCGCGAAGGCCTCAAGGCCAAGATGCTGGACATAAGGACGG
```

BGH02_B02c

BGH02_B02c-pDONR221

```
F   T   P   A   R   P   L   D   R   G   A   L   P   E   F   R   F   Y   D   L   Y   S   C
972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994
```

EcoICRI
SacI

```
5'  AGTCGGCGGATTAGGACCCAGCTTTCTTGTACAAAGTGGTTGATatcggatccgaattcgagctccgtcg
                                                                      8260
3'  TCAGCCGCCTAATCCTGGGTCGAAAGAACATGTTTCACCAACTAtagcctaggcttaagctcgaggcagc
```

BGH02_B02c

attB2

BGH02_B02c-pDONR221

```
Q   S   A   D   .
995 996 997 998 999
```

HindIII
PspXI
XhoI

```
5'  acaagcttgcggccgcactcgagcaccaccaccaccaccactgagatccggctgctaacaaagcccgaaa
                                                                      8330
3'  tgttcgaacgccggcgtgagctcgtggtggtggtggtggtgactctaggccgacgattgtttcgggcttt
```

BlpI

5' ggaagctgagttggctgctgccaccgctgagcaataactagcataaccccttggggcctctaaacgggtc

8400

3' ccttcgactcaaccgacgacggtggcgactcgttattgatcgtattggggaaccccggagatttgcccag

T7 Terminator

5' ttgaggggttttttgctgaaaggaggaactatatccggat

8440

3' aactccccaaaaaacgactttcctccttgatataggccta

T7 Terminator