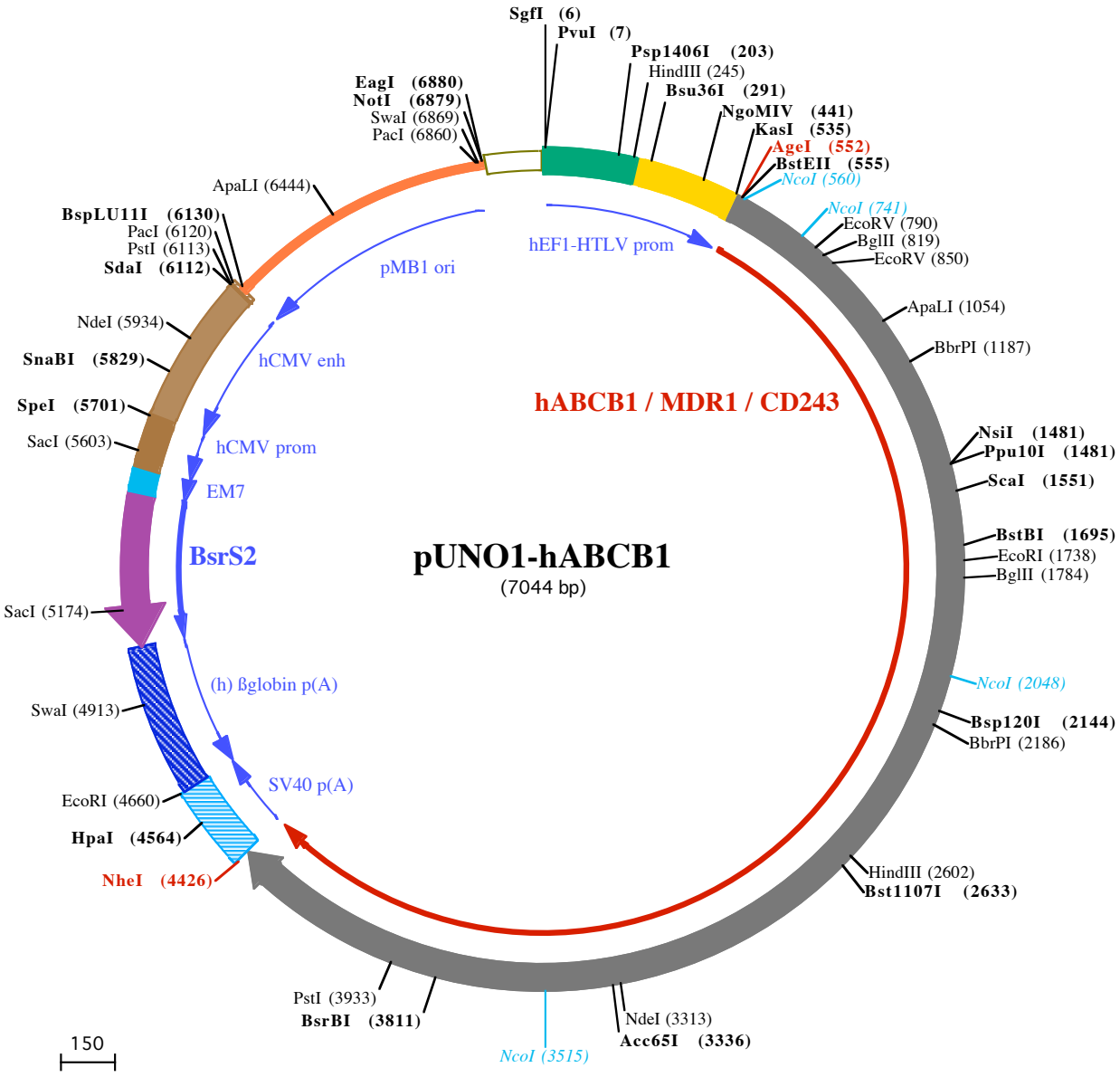
pUNO1-hABCB1
(7044 bp)
hABCB1 / MDR1 / CD243
BsrS2
SgfI (6)
PvuI (7)
Psp1406I (203)
HindIII (245)
Bsu36I (291)
NgoMIV (441)
KasI (535)
AgeI (552)
BstEII (555)
NcoI (560)
NcoI (741)
EcoRV (790)
BglII (819)
EcoRV (850)
ApaLI (1054)
BbrPI (1187)
NsiI (1481)
Ppu10I (1481)
ScaI (1551)
BstBI (1695)
EcoRI (1738)
BglII (1784)
NcoI (2048)
Bsp120I (2144)
BbrPI (2186)
HindIII (2602)
Bst1107I (2633)
NdeI (3313)
Acc65I (3336)
NcoI (3515)
PstI (3933)
BsrBI (3811)
NheI (4426)
HpaI (4564)
EcoRI (4660)
SwaI (4913)
SacI (5174)
SacI (5603)
SpeI (5701)
SnaBI (5829)
NdeI (5934)
SdaI (6112)
PstI (6113)
PacI (6120)
BspLU11I (6130)
ApaLI (6444)
PacI (6860)
SwaI (6869)
NotI (6879)
EagI (6880)
pMB1 ori
hEF1-HTLV prom
hCMV enh
hCMV prom
EM7
(h) ßglobin p(A)
SV40 p(A)
150

InvivoGen

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                PvuI  (7)
              SgfI  (6)
  1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCCACAGTCCCCGAGAAGTTGGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGGTAAACTGGGAAAGTGATGTCGTGTACTGGCTCCGCCTTTTTCCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

        Psp1406I  (203)                                HindIII (245)                                    Bsu36I  (291)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCCTTCACGCGCCCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

                                                NgoMIV  (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCCTGCTTGCTCAACTCTACGTCTTTGTTTCGTTT

                                                                                NcoI (560)
                                                                        BstEII  (555)
                                        KasI  (535)                AgeI  (552)
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTCACCATGGATCTTGAAGGGGACCGCAATGGAGGAGCAAAGAA
                                                                                  1▸ M  D  L  E  G  D  R  N  G  G  A  K  K
601 GAAGAACTTTTTTAAACTGAACAATAAAAGTGAAAAAGATAAGAAGGAAAAGAAACCAACTGTCAGTGTATTTTCAATGTTTCGCTATTCAAATTGGCTT
 13▸  K  N  F  F  K  L  N  N  K  S  E  K  D  K  K  E  K  K  P  T  V  S  V  F  S  M  F  R  Y  S  N  W  L
                                                NcoI (741)                                        EcoRV (790)
701 GACAAGTTGTATATGGTGGTGGGAACTTTGGCTGCCATCATCCATGGGGCTGGACTTCCTCTCATGATGCTGGTGTTTGGAGAAATGACAGATATCTTTG
 47▸ D  K  L  Y  M  V  V  G  T  L  A  A  I  I  H  G  A  G  L  P  L  M  M  L  V  F  G  E  M  T  D  I  F
                        BglII (819)                        EcoRV (850)
801 CAAATGCAGGAAATTTAGAAGATCTGATGTCAAACATCACTAATAGAAGTGATATCAATGATACAGGGTTCTTCATGAATCTGGAGGAAGACATGACCAG
 80▸A  N  A  G  N  L  E  D  L  M  S  N  I  T  N  R  S  D  I  N  D  T  G  F  F  M  N  L  E  E  D  M  T  R
901 GTATGCCTATTATTACAGTGGAATTGGTGCTGGGGTGCTGGTTGCTGCTTACATTCAGGTTTCATTTTGGTGCCTGGCAGCTGGAAGACAAATACACAAA
113▸  Y  A  Y  Y  Y  S  G  I  G  A  G  V  L  V  A  A  Y  I  Q  V  S  F  W  C  L  A  A  G  R  Q  I  H  K
                                                                        ApaLI (1054)
1001 ATTAGAAAACAGTTTTTTCATGCTATAATGCGACAGGAGATAGGCTGGTTTGATGTGCACGATGTTGGGGAGCTTAACACCCGACTTACAGATGATGTCT
147▸ I  R  K  Q  F  F  H  A  I  M  R  Q  E  I  G  W  F  D  V  H  D  V  G  E  L  N  T  R  L  T  D  D  V
                                                                                                BbrPI (1187)
1101 CCAAGATTAATGAAGGAATTGGTGACAAAATTGGAATGTTCTTTCAGTCAATGGCAACATTTTTCACTGGGTTTATAGTAGGATTTACACGTGGTTGGAA
180▸S  K  I  N  E  G  I  G  D  K  I  G  M  F  F  Q  S  M  A  T  F  F  T  G  F  I  V  G  F  T  R  G  W  K
1201 GCTAACCCTTGTGATTTTGGCCATCAGTCCTGTTCTTGGACTGTCAGCTGCTGTCTGGGCAAAGATACTATCTTCATTTACTGATAAAGAACTCTTAGCG
213▸  L  T  L  V  I  L  A  I  S  P  V  L  G  L  S  A  A  V  W  A  K  I  L  S  S  F  T  D  K  E  L  L  A
1301 TATGCAAAAGCTGGAGCAGTAGCTGAAGAGGTCTTGGCAGCAATTAGAACTGTGATTGCATTTGGAGGACAAAAGAAAGAACTTGAAAGGTACAACAAAA
247▸ Y  A  K  A  G  A  V  A  E  E  V  L  A  A  I  R  T  V  I  A  F  G  G  Q  K  K  E  L  E  R  Y  N  K
                                                                                        Ppu10I  (1481)
                                                                                        NsiI  (1481)
1401 ATTTAGAAGAAGCTAAAAGAATTGGGATAAAGAAAGCTATTACAGCCAATATTTCTATAGGTGCTGCTTTCCTGCTGATCTATGCATCTTATGCTCTGGC
280▸N  L  E  E  A  K  R  I  G  I  K  K  A  I  T  A  N  I  S  I  G  A  A  F  L  L  I  Y  A  S  Y  A  L  A
                                                                ScaI  (1551)
1501 CTTCTGGTATGGGACCACCTTGGTCCTCTCAGGGGAATATTCTATTGGACAAGTACTCACTGTATTCTTTTCTGTATTAATTGGGGCTTTTAGTGTTGGA
313▸  F  W  Y  G  T  T  L  V  L  S  G  E  Y  S  I  G  Q  V  L  T  V  F  F  S  V  L  I  G  A  F  S  V  G
                                                                                                BstBI (1695)
1601 CAGGCATCTCCAAGCATTGAAGCATTTGCAAATGCAAGAGGAGCAGCTTATGAAATCTTCAAGATAATTGATAATAAGCCAAGTATTGACAGCTATTCGA
347▸ Q  A  S  P  S  I  E  A  F  A  N  A  R  G  A  A  Y  E  I  F  K  I  I  D  N  K  P  S  I  D  S  Y  S
                                        EcoRI (1738)                                        BglII (1784)
1701 AGAGTGGGCACAAACCAGATAATATTAAGGGAAATTTGGAATTCAGAAATGTTCACTTCAATTACCCATCTCGAAAAGAAGTTAAGATCTTGAAGGGCCT
380▸K  S  G  H  K  P  D  N  I  K  G  N  L  E  F  R  N  V  H  F  N  Y  P  S  R  K  E  V  K  I  L  K  G  L
1801 GAACCTGAAGGTGCAGAGTGGGCAGACGGTGGCCCTGGTTGGAAACAGTGGCTGTGGGAAGAGCACAACAGTCCAGCTGATGCAGAGGCTCTATGACCCC
413▸  N  L  K  V  Q  S  G  Q  T  V  A  L  V  G  N  S  G  C  G  K  S  T  T  V  Q  L  M  Q  R  L  Y  D  P
1901 ACAGAGGGGATGGTCAGTGTTGATGGACAGGATATTAGGACCATAAATGTAAGGTTTCTACGGGAAATCATTGGTGTGGTGAGTCAGGAACCTGTATTGT
447▸ T  E  G  M  V  S  V  D  G  Q  D  I  R  T  I  N  V  R  F  L  R  E  I  I  G  V  V  S  Q  E  P  V  L
                                                NcoI (2048)
2001 TTGCCACCACGATAGCTGAAAACATTCGCTATGGCCGTGAAAATGTCACCATGGATGAGATTGAGAAAGCTGTCAAGGAAGCCAATGCCTATGACTTTAT
480▸F  A  T  T  I  A  E  N  I  R  Y  G  R  E  N  V  T  M  D  E  I  E  K  A  V  K  E  A  N  A  Y  D  F  I
                                                Bsp120I  (2144)                                BbrPI (2186)
2101 CATGAAACTGCCTCATAAATTTGACACCCTGGTTGGAGAGAGAGGGGCCCAGTTGAGTGGTGGGCAGAAGCAGAGGATCGCCATTGCACGTGCCCTGGTT
513▸  M  K  L  P  H  K  F  D  T  L  V  G  E  R  G  A  Q  L  S  G  G  Q  K  Q  R  I  A  I  A  R  A  L  V
2201 CGCAACCCCAAGATCCTCCTGCTGGATGAGGCCACGTCAGCCTTGGACACAGAAAGCGAAGCAGTGGTTCAGGTGGCTCTGGATAAGGCCAGAAAAGGTC
547▸ R  N  P  K  I  L  L  L  D  E  A  T  S  A  L  D  T  E  S  E  A  V  V  Q  V  A  L  D  K  A  R  K  G
2301 GGACCACCATTGTATAGCTCATCGTTTGTCTACAGTTCGTAATGCTGACGTCATCGCTGGTTTCGATGATGGAGTCATTGTGGAGAAAGGAAATCATGA
580▸R  T  T  I  V  I  A  H  R  L  S  T  V  R  N  A  D  V  I  A  G  F  D  D  G  V  I  V  E  K  G  N  H  D
2401 TGAACTCATGAAAGAGAAAGGCATTTACTTCAAACTTGTCACAATGCAGACAGCAGGAAATGAAGTTGAATTAGAAAATGCAGCTGATGAATCCAAAAGT
613▸  E  L  M  K  E  K  G  I  Y  F  K  L  V  T  M  Q  T  A  G  N  E  V  E  L  E  N  A  A  D  E  S  K  S
2501 GAAATTGATGCCTTGGAAATGTCTTCAAATGATTCAAGATCCAGTCTAATAAGAAAAAGATCAACTCGTAGGAGTGTCCGTGGATCACAAGCCCAAGACA
647▸ E  I  D  A  L  E  M  S  S  N  D  S  R  S  S  L  I  R  K  R  S  T  R  R  S  V  R  G  S  Q  A  Q  D
        HindIII (2602)                        Bst1107I  (2633)
2601 GAAAGCTTAGTACCAAAGAGGCTCTGGATGAAAGTATACCTCCAGTTTCCTTTTGGAGGATTATGAAGCTAAATTTAACTGAATGGCCTTATTTTGTTGT
680▸R  K  L  S  T  K  E  A  L  D  E  S  I  P  P  V  S  F  W  R  I  M  K  L  N  L  T  E  W  P  Y  F  V  V
2701 TGGTGTATTTTGTGCCATTATAAATGGAGGCCTGCAACCAGCATTTGCAATAATATTTTCAAAGATTATAGGGGTTTTTACAAGAATTGATGATCCTGAA
713▸  G  V  F  C  A  I  I  N  G  G  L  Q  P  A  F  A  I  I  F  S  K  I  I  G  V  F  T  R  I  D  D  P  E
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2801 ACAAAACGACAGAATAGTAACTTGTTTTCACTATTGTTTCTAGCCCTTGGAATTATTTCTTTTATTACATTTTTCCTTCAGGGTTTCACATTTGGCAAAG
 747▸ T  K  R  Q  N  S  N  L  F  S  L  L  F  L  A  L  G  I  I  S  F  I  T  F  F  L  Q  G  F  T  F  G  K
2901 CTGGAGAGATCCTCACCAAGCGGCTCCGATACATGGTTTTCCGATCCATGCTCAGACAGGATGTGAGTTGGTTTGATGACCCTAAAAACACCACTGGAGC
 780▸A  G  E  I  L  T  K  R  L  R  Y  M  V  F  R  S  M  L  R  Q  D  V  S  W  F  D  D  P  K  N  T  T  G  A
3001 ATTGACTACCAGGCTCGCCAATGATGCTGCTCAAGTTAAAGGGGCTATAGGTTCCAGGCTTGCTGTAATTACCCAGAATATAGCAAATCTTGGGACAGGA
 813▸  L  T  T  R  L  A  N  D  A  A  Q  V  K  G  A  I  G  S  R  L  A  V  I  T  Q  N  I  A  N  L  G  T  G
3101 ATAATTATATCCTTCATCTATGGTTGGCAACTAACACTGTTACTCTTAGCAATTGTACCCATCATTGCAATAGCAGGAGTTGTTGAAATGAAAATGTTGT
 847▸ I  I  I  S  F  I  Y  G  W  Q  L  T  L  L  L  L  A  I  V  P  I  I  A  I  A  G  V  V  E  M  K  M  L
3201 CTGGACAAGCACTGAAAGATAAGAAAGAACTAGAAGGTGCTGGGAAGATCGCTACTGAAGCAATAGAAAACTTCCGAACCGTTGTTTCTTTGACTCAGGA
 880▸S  G  Q  A  L  K  D  K  K  E  L  E  G  A  G  K  I  A  T  E  A  I  E  N  F  R  T  V  V  S  L  T  Q  E
                    NdeI (3313)                 Acc65I  (3336)
3301 GCAGAAGTTTGAACATATGTATGCTCAGAGTTTGCAGGTACCATACAGAAACTCTTTGAGGAAAGCACACATCTTTGGAATTACATTTTCCTTCACCCAG
 913▸  Q  K  F  E  H  M  Y  A  Q  S  L  Q  V  P  Y  R  N  S  L  R  K  A  H  I  F  G  I  T  F  S  F  T  Q
3401 GCAATGATGTATTTTTCCTATGCTGGATGTTTCCGGTTTGGAGCCTACTTGGTGGCACATAAACTCATGAGCTTTGAGGATGTTCTGTTAGTATTTTCAG
 947▸ A  M  M  Y  F  S  Y  A  G  C  F  R  F  G  A  Y  L  V  A  H  K  L  M  S  F  E  D  V  L  L  V  F  S
                    NcoI (3515)
3501 CTGTTGTCTTTGGTGCCATGGCCGTGGGGCAAGTCAGTTCATTTGCTCCTGACTATGCCAAAGCCAAAATATCAGCAGCCCACATCATCATGATCATTGA
 980▸A  V  V  F  G  A  M  A  V  G  Q  V  S  S  F  A  P  D  Y  A  K  A  K  I  S  A  A  H  I  I  M  I  I  E
3601 AAAAACCCCTTTGATTGACAGCTACAGCACGGAAGGCCTAATGCCGAACACATTGGAAGGAAATGTCACATTTGGTGAAGTTGTATTCAACTATCCCACC
1013▸  K  T  P  L  I  D  S  Y  S  T  E  G  L  M  P  N  T  L  E  G  N  V  T  F  G  E  V  V  F  N  Y  P  T
3701 CGACCGGACATCCCAGTGCTTCAGGGACTGAGCCTGGAGGTGAAGAAGGGCCAGACGCTGGCTCTGGTGGGCAGCAGTGGCTGTGGGAAGAGCACAGTGG
1047▸ R  P  D  I  P  V  L  Q  G  L  S  L  E  V  K  K  G  Q  T  L  A  L  V  G  S  S  G  C  G  K  S  T  V
                BsrBI  (3811)
3801 TCCAGCTCCTGGAGCGGTTCTACGACCCCTTGGCAGGGAAAGTGCTGCTTGATGGCAAAGAAATAAAGCGACTGAATGTTCAGTGGCTCCGAGCACACCT
1080▸V  Q  L  L  E  R  F  Y  D  P  L  A  G  K  V  L  L  D  G  K  E  I  K  R  L  N  V  Q  W  L  R  A  H  L
                                        PstI (3933)
3901 GGGCATCGTGTCCCAGGAGCCCATCCTGTTTGACTGCAGCATTGCTGAGAACATTGCCTATGGAGACAACAGCCGGGTGGTGTCACAGGAAGAGATCGTG
1113▸  G  I  V  S  Q  E  P  I  L  F  D  C  S  I  A  E  N  I  A  Y  G  D  N  S  R  V  V  S  Q  E  E  I  V
4001 AGGGCAGCAAAGGAGGCCAACATACATGCCTTCATCGAGTCACTGCCTAATAAATATAGCACTAAAGTAGGAGACAAAGGAACTCAGCTCTCTGGTGGCC
1147▸ R  A  A  K  E  A  N  I  H  A  F  I  E  S  L  P  N  K  Y  S  T  K  V  G  D  K  G  T  Q  L  S  G  G
4101 AGAAACAACGCATTGCCATAGCTCGTGCCCTTGTTAGACAGCCTCATATTTTGCTTTTGGATGAAGCCACGTCAGCTCTGGATACAGAAAGTGAAAAGGT
1180▸Q  K  Q  R  I  A  I  A  R  A  L  V  R  Q  P  H  I  L  L  L  D  E  A  T  S  A  L  D  T  E  S  E  K  V
4201 TGTCCAAGAAGCCCTGGACAAAGCCAGAGAAGGCCGCACCTGCATTGTGATTGCTCACCGCCTGTCCACCATCCAGAATGCAGACTTAATAGTGGTGTTT
1213▸  V  Q  E  A  L  D  K  A  R  E  G  R  T  C  I  V  I  A  H  R  L  S  T  I  Q  N  A  D  L  I  V  V  F
4301 CAGAATGGCAGAGTCAAGGAGCATGGCACGCATCAGCAGCTGCTGGCACAGAAAGGCATCTATTTTTCAATGGTCAGTGTCCAGGCTGGAACAAAGCGCC
1247▸ Q  N  G  R  V  K  E  H  G  T  H  Q  Q  L  L  A  Q  K  G  I  Y  F  S  M  V  S  V  Q  A  G  T  K  R
                                NheI  (4426)
4401 AGTGAACTCTGACTGTATGAGATGTTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACTAGAATGCAGTGAAAAAAATG
1280▸Q  •
                                                                                HpaI  (4564)
4501 CTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAG

                                                                        EcoRI (4660)
4601 GTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAAACTTTAACCTCCAAA

4701 TCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTC

4801 ATGGAGTTTAAGATATAGTGTATTTTCCCAAGGTTTGAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCCTTTTTAGTAAA

                SwaI (4913)
4901 ATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCCAGTTT

5001 AGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGT
                                                                    141◂ •  N  R  T  Y  K  L  P  I  L
                                                                                SacI (5174)
5101 TCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGC
 130◂E  E  I  T  T  K  V  L  K  G  N  M  E  I  L  V  F  C  D  P  A  Y  D  S  I  L  E  R  C  M  G  C  P  S
5201 TGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCCGTTGCTCACAGCAGACCCAAT
  97◂  V  V  R  I  S  R  D  V  E  D  S  Y  P  H  R  V  A  V  I  T  D  F  D  K  Q  G  N  S  V  A  S  G  I
5301 GGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCCTGATGGCCGCCCCGACA
  64◂ A  I  A  E  A  C  V  T  V  R  G  I  Y  A  E  I  H  V  A  S  I  I  E  G  T  K  T  R  I  A  A  G  V
5401 TGGTGCTTGTTGTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCC
  30◂H  H  K  N  D  E  Y  L  M  T  I  K  E  T  A  V  E  V  L  E  L  D  Q  Q  S  I  N  F  T  K  M
5501 TCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTA

     SacI (5603)
5601 AACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATT

  SpeI  (5701)
5701 TACTAGTCAAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCCATTGATGTACTGCCAAAA

                                SnaBI  (5829)
5800 CCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCAT
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NdeI (5934)

5900 TTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTC

6000 AATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGT

PstI (6113)
SdaI (6112) PacI (6120) **BspLU11I (6130)**

6100 AAGTTATGTAACG**CCTGCAGGTTAA**TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCA

6198 TAGGCTCCGCCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGA

6298 AGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCT

ApaLI (6444)

6398 GTAGGTATCTCAGTTCGGTGTAGGTCGTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCG

6498 TCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTC

6598 TTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTT

6698 GATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAGAAGATCCTTTGATCTT

EagI (6880)
PacI (6860) SwaI (6869) **NotI (6879)**

6798 TTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATAT

6898 CTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAACTAGCAAAATA
6998 GGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA