



PvuI (7)
SgfI (6)
MfeI (82) **EcoNI (96)**

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
Bsu36I (291)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGACAGACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGTCTTTGTTTCGTTT

KasI (535)
BspHI (560)

501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTCATCATGATGGACTTGAGCTGCCGCCCGGGACTCCCGTC
1▶ M M D L E L P P P G L P S

BglII (645)

601 CCAGCAGGACATGGATTTGATTGACATACTTTGGAGGCAAGATATAGATCTTGGAGTAAGTCGAGAAGTATTTGACTTCAGTCAGCGACGGAAAGAGTAT
 13▶ Q Q D M D L I D I L W R Q D I D L G V S R E V F D F S Q R R K E Y
 701 GAGCTGAAAAACAGAAAAACTTAAAAAGGAAAGACAAGAACAACCTCCAAAAGGAGCAAGAGAAAGCCTTTTTCGCTCAGTTACAAC TAGATGAAGAGA
 47▶ E L E K Q K K L E K E R Q E Q L A Q K E Q E K A F F A Q L Q L D E E
 801 CAGGTGAATTTCTCCCAATTCAGCCAGCCAGCACATCCAGTCAAGACCGATCTGCCAACTACTCCAGGTTGCCACATTCCTCCAAATCAGATGC
 80▶ T G E F L P I Q P A Q H I Q S E T S G S A N Y S Q V A H I P K S D A
 901 TTTGACTTTGATGACTGCATGCAGCTTTTGGCGCAGACATTCGGTGTGATGATGACAATGAGTTTCTTCGGTACGTTTCAGTCAGTTGTTCTCTGAT
 113▶ L Y F D D C M Q L L A Q T F P F V D D N E V S S A T F Q S L V P D
 1001 ATTCGGTCCATCGAGAGCCAGTCTTATTGCTACTAATCAGGCTCAGTCACTGAAACTTCTGTTGCTCAGGTAGCCCTGTTGATTTAGACGGTA
 147▶ I P G H I E S P V F I A T N Q A Q S P E T S V A Q V A P V D L D G

BspI (1162)
NcoI (1193)

1101 TGCAACAGGACATTGAGCAAGTTTGGGAGGAGCTATTATCCATTCCTGAGTTACAGTGTCTTAATATTGAAAAAGACAAGCTGGTTGAGACTACCATGGT
 180▶ M Q Q D I E Q V W E E L L S I P E L Q C L N I E N D K L V E T T M V
 1201 TCCAAGTCCAGAAGCCAACTGACAGAAGTTGACAATATCATTTTACTCATCTATACCTCAATGGAAAAAGAAAGTAGGTAAGTGTAGTCCACATTTT
 213▶ P S P E A K L T E V D N Y H F Y S S I P S M E K E V G N C S P H F
 1301 CTTAATGCTTTTGGAGATTCTTTCAGCAGCATCTCTCCACAGAAGACCCCAACAGTTGACAGTGAAGTCAATAAATCAGATGCCACAGTCAACACAG
 247▶ L N A F E D S F S S I L S T E D P N Q L T V N S L N S D A T V N T
 1401 ATTTTGGTGAATTTTATTCTGCTTTCATAGCTGAGCCAGTATCAGCAACAGCATGCCCTCACCTGCTACTTTAAGCCATTCAGTCTGAACTTCT
 280▶ D F G D E F Y S A F I A E P S I S N S M P S P A T L S H S L S E L L

Bsp120I (1504)
HindIII (1538)
EcoRI (1573)

1501 AAATGGGCCATTGATGTTTCTGATCTATCACTTTGCAAAGCTTTCAACAAAACCACCTGAAAGCACAGCAGAATTCAATGATTCTGACTCCGGCATT
 313▶ N G P I D V S D L S L C K A F N Q N H P E S T A E F N D S D S G I

DraIII (1636)
SapI (1696)

1601 TCACTAAACACAAGTCCCAGTGTGGCATCACCAGAACACTCAGTGGAAATCTTCCAGCTATGGAGACACTACTTGGCCCTCAGTGATTCTGAAGTGGAA
 347▶ S L N T S P S V A S P E H S V E S S S Y G D T L L G L S D S E V E
 1701 AGCTAGATAGTCCCCTGGAAGTGTCAAACAGAATGGTCTAAAACACCAGTACATTCTCTGGGGATATGGTACAACCTTGTACCATCTCAGGGGCA
 380▶ E L D S A P G S V K Q N G P K T P V H S S G D M V Q P L S P S Q G Q

BbrPI (1807)

1801 GAGCACTACGTGCATGATGCCAATGTGAGAACACACAGAGAAAGAATTGCCTGTAAGTCTGGTGCATCGGAAAACCCATTACAAAAAGACAAACAT
 413▶ S T H V H D A Q C E N T P E K E L P V S P G H R K T P F T K D K H
 1901 TCAAGCCGTTGGAGGCTCATCTCAAGAGATGAAGTGGGCAAAAGCTCTCCATATCCATTCCCTGTAGAAAAAATCATTAACTCCCTGTTGTTG
 447▶ S S R L E A H L T R D E L R A K A L H I P F P V E K I I N L P V V

AseI (2049)
SnaBI (2063)

2001 ACTTCAACGAAATGATGTCCAAAGAGCAGTTCAATGAAGCTCAACTTGCATTAATTCGGGATATACGTAGGAGGGGTAAGAATAAAGTGGCTGCTCAGAA
 480▶ D F N E M M S K E Q F N E A Q L A L I R D I R R R G K N K V A A Q N

BsaBI (2143)

2101 TTGCAGAAAAAGAAAAGTGGAAAATATAGTAGAAGTGGCAAGATTTAGATCATTGAAAGATGAAAAAGAAAATGCTCAAAGAAAAAGGAGAAAAT
 513▶ C R K R K L E N I V E L E Q D L D H L K D E K E K L L K E K G E N
 2201 GACAAAAGCCTTACCTACTGAAAAACAACACTCAGCACCTTATATCTCGAAGTTTTCAGCATGCTACGTGATGAAGATGGAAAACCTTATTCTCCTAGTG
 547▶ D K S L H L L K K Q L S T L Y L E V F S M L R D E D G K P Y S P S

PstI (2308)

2301 AATACTCCCTGCAGCAAACAAGAGATGGCAATGTTTTCTTGTCCAAAAGTAAGAAGCCAGATGTTAAGAAAAACTAGATTTAGGAGGATTTGACCTT
 580▶ E Y S L Q Q T R D G N V F L V P K S K K P D V K K N •

MscI (2412)
NheI (2406)

2401 TTCTGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTG

HpaI (2544)
MfeI (2555)

2501 ATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTCGATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGA

EcoRI (2640)

2601 GGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTGAAATCC

2701 TTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTG

2801 TATTTTCCAAGTTTGAAGTCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAA

SapI (2822) SspI (2879) SmaI (2893)

2901 TACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAAC

EcoO109I (2954)

3001 AAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTTCCTCAATGGTGGTTTTGAC

141 • N R T Y K L P I L E E I T T K V

3101 CAGCTTGCCATTTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTG

124 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 V V R I S R

3201 TCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGA

90 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 A I A E A C V

StuI (3318)

3301 CAGTGACCCTGCCAATGTAGGCCCAATGTGGACAGCAGAGATGATCTCCCAAGTCTGGTCTGATGGCCGCCCGACATGGTCTTGTGTCTCATA

57 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 H H K N D E Y

XmnI (3460)

3401 GAGCATGGTATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTA

24 L M T I K E T A V E V L E L D Q Q S I N F T K M

3501 TACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAG

AseI (3526) SacI (3583)

3601 ACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCC

SpeI (3681)

3701 CATTGACGTCAATGGGGTGGAGACTTGGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGC

3801 GATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCACTGTACTGGGCATAATGCCAGGGGGCCATTTACCGTCATTGACGTCAATA

SnaBI (3809)

3901 GGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCG

NdeI (3914)

4001 TTACTATGGGAACATACGTCAATTATTGACGTCAATGGGGGGGGTCTGTTGGCGGTGACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGG

PstI (4093) **SdaI (4092)**

4101 TTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGC

PacI (4100) **BspLU11I (4110)**

4201 ATCACAATAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGT

4301 TCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAG

4401 GTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGAGCCGACCGCTGCGCTTATCCGTAACATATCGTCTTGTAGTCCAACCCGGTAAGAC

ApaLI (4424)

4501 ACGACTTATCGCCACTGGCAGCAGCCACTGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGG

4601 CTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCAGCT

4701 GGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCTGACGCTCAGT

4801 GGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCCAATAAAATATCTTTATTTTATTACATCTGTG

PacI (4840) SmaI (4849) **EagI (4860)** **NotI (4859)**

4901 GTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAG

5001 GTGCCAGAACATTTCTCTATCGAA