



PvuI (7)
SgfI (6)
EcoNI (96)

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
Bsu36I (291)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGGCCCGCCGCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

EcoNI (287)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

BspHI (560)

501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCATCATGAACCGAAGCATTCTGTGGAGGTTGATGAATCAGA
1▶ M N R S I P V E V D E S E

SspI (635)

601 ACCATACCCAAGTCAAGTGTGAAACCAATCCCAGAATTTCCCGGAAGAGGAATCAGAACCACCTGCTCCTCAATATAAGGAACATGGCACCCAACAGC
 13▶ P Y P S Q L L K P I P E Y S P E E E S E P P A P N I R N M A P N S

BspEI (730)
BstEII (798)

701 TTGTCTGCACCCACAATGCTTCAACAATCCTCCGGAGACTTTTCTCAAGCTCACTCAACCCTGAAACTTGCAAATCACCAGCGGCTGTATCCCGGCAGG
 47▶ L S A P T M L H N S S G D F S Q A H S T L K L A N H Q R P V S R Q

FspI (809)
BbsI (835)
HindIII (872)

801 TCACCTGCCTGCGCACTCAAGTCTGGAGGACAGTGAAGACAGTTTCTGCAGGAGACACCCAGGCTGGGCAAAGCTTCCCTTCTGGGTGCTCTGCAGT
 80▶ V T C L R T Q V L E D S E D S F C R R H P G L G K A F P S G C S A V
 901 CAGCGAGCTCGCTGAGTCTGTGGTGGAGCCCTCCCTGCAGAGCATCAGTTCATTTATGGAAAAACGTAATCAATGGCTGGTATCTCAGCTTTCA
 113▶ S E P A S E S V V G A L P A E H Q F S F M E K R N Q W L V S Q L S
 1001 GCGGCTTCTCCTGACACTGGCCATGACTCAGACAAATCAGACCAAAGTTTACCTAATGCCTCAGCAGACTCCTTGGGCGGTAGCCAGGAGATGGTGAAC
 147▶ A A S P D T G H D S D K S D Q S L P N A S A D S L G G S Q E M V Q
 1101 GGGCCAGCTCAGAGAACCGAGCAGGCTGGATCTGCCAACATAGACACGGGATATGATCCAGCCCGAGGATGCTTGGGCATCAGGCAGCTGGA
 180▶ R P Q P H R N R A G L D L P T I D T G Y D S Q P Q D V L G I R Q L E
 1201 AAGGCCCTGCCCTCACCTCCGTGTGTTACCCCGAGGACCTCCCGAGCTCAGTCCAGGGAGTCCCTCAGTTGAACCTCAGAGGTATCCAGCA
 213▶ R P L P L T S V C Y P Q D L P R P L R S R E F P Q F E P Q R Y P A

ApaLI (1301)
NeoI (1339)
BstXI (1356)
DraIII (1378)
NdeI (1388)

1301 TGTGCACAGATGCTGCCTCCCAATCTTTCCCCACATGCTCCATGGAACATCATTACCATTGTCTGGAAGTCCCGATCACCAGGTGCCATATGGCCATG
 247▶ C A Q M L P P N L S P H A P W N Y H Y H C P G S P D H Q V P Y G H

XhoI (1406)
NgoMIV (1434)
DraIII (1483)

1401 ACTACCCTCGAGCAGCCTACCAGCAAGTATCCAGCCGGCTCTGCCTGGGCGAGCCCTGCCTGGAGCCAGTGTGAGAGGCTGCACCCCTGTGCAGAAGGT
 280▶ D Y P R A A Y Q Q V I Q P A L P G Q P L P G A S V R G L H P V Q K V
 1501 TATCCTGAATTATCCAGCCCTGGGACCAAGAAGAGAGGCCCCGACAGAGACTGCTCCTTTCCGGGGCTTCCAAGGCACCAGGACCAGCCACATCAC
 313▶ I L N Y P S P W D Q E E R P A Q R D C S F P G L P R H Q D Q P H H
 1601 CAGCCACCTAATAGAGCTGGTCTCCTGGGAGTCTTGGAGTGCCCTGCAGAGCTGAGACCACAGGTTCCCGAGCCTCCGCTCCCGAGCTGCTGTGCCTA
 347▶ Q P P N R A G A P G E S L E C P A E L R P Q V P Q P P S P A A V P
 1701 GACCCCTAGCAACCCTCAGCCAGAGAACTCTAAAAACAAGCAATTTGCCAGAAGAATTGCGGAAAGTCTTATCACTTATTCGATGGACACAGCTAT
 380▶ R P P S N P P A R G T L K T S N L P E E L R K V F I T Y S M D T A M

EcoRV (1885)

1801 GGAGGTGGTGAATTCGTGAACCTTTTGTGGTAAATGGCTTCCAAACTGCAATTGACATATTTGAGGATAGAATCCGAGGCATTGATATCATTAAATGG
 413▶ E V V K F V N F L L V N G F Q T A I D I F E D R I R G I D I I K W

Bsu36I (1911)
Eco47III (1904)
BsaBI (1929)

1901 ATGGAGCGCTACCTTAGGATAAGACCGTGATGATAATCGTAGCAATCAGCCCAAATACAAACAGGACGTGGAAGGCCTGAGTCGCAGCTGGACGAGG
 447▶ M E R Y L R D K T V M I I V A I S P K Y K Q D V E G A E S Q L D E

SapI (2091)

2001 ATGAGCATGGCTTACATACTAAGTACATTCATCGAATGATGCAGATGAGTTCATAAAAACAAGGAAGCATGAATTTAGATTATCCCTGTGCTCTTCCC
 480▶ D E H G L H T K Y I H R M M Q I E F I K Q G S M N F R F I P V L F P
 2101 AAATGCTAAGAAGGAGCATGTGCCACCTGGCTTCCAGAACACTCATGTCTACAGCTGGCCCAAGAATAAAAAAATCCTGCTGCGGCTGCTGAGAGAG
 513▶ N A K K E H V P T W L Q N T H V Y S W P K N K K N I L L R L L R E

NheI (2280)

2201 GAAGAGTATGTGGCTCTCCACGGGGGCTCTGCCACCTTCCAGTGGTTCCTTTGTGACACCGTTCATCCCGAGATCAGCTAGTGGCCAGACATGAT
 547▶ E E Y V A P P R G P L P T L Q V V P L •

2301 AAGATACATTGATGAGTTTGGACAACCAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATT

HpaI (2418)

2401 ATAAGCTGAATAAACAAGTTAAACAACAACATTCATTATTTATGTTTCAGGTTGAGGGGAGGTGTGGAGGTTTTTAAAGCAAGTAAACCTCT

EcoRI (2514)

2501 ACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGCATAG

SapI (2696)

2601 GCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTCTTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGTTTGAAC TAGCT

2701 TTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGT
SspI (2753) SwaI (2767)
 2801 TTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGAC
 2901 AGCAAGAAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCATCTCAATGAGCA
141 • N R T Y K L P I L E E I T T K V L K G N M E I L V
SacI (3028) BstXI (3057)
 3001 CAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCT
115 F C D P A Y D S I L E R C M G C P S V V R I S R D V E D S Y P H R
 3101 GACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCCTCA
82 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 T V R G I Y A E
 3201 ATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTTCCTCATAGAGCATGGTATCTTCTCAGTGGCGA
48 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 L M T I K E T A V
BbsI (3338)
XmnI (3334)
 3301 CCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATG
15 E V L E L D Q Q S I N F T K M
AseI (3400) SacI (3457)
 3401 ATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCC
SpeI (3555)
 3501 CATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAAGTCCCCTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTT
SnaBI (3683)
 3601 GGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCC
NdeI (3788)
 3701 AAGTAGGAAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCCTGATTGACGTCAATAGGGGGCGTACTTGGCATATGATACAC
 3801 TTGATGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAAGTCCCTATTGGCGTTACTATGGGAACATACGTATTATT
PacI (3974) SdaI (3966) BspLU11I (3984)
 3901 GACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATAAGAACATGTGAGCAAAAGG
CCAGCAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAG
 4001 AGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACC
ApaLI (4298)
 4201 TGTCGGCTTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGT
 4301 GCACGAACCCCCGTTTCAGCCCAGCCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCC
 4401 ACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAAGTATTGGTA
 4501 TCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTGCAA
 4601 GCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATT
EagI (4734) PacI (4714) SwaI (4723) NotI (4733)
 4701 TTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACT
 4801 AACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA