



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA MfeI (82) EcoNI (96)

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) **Bsu36I (291)**
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC EcoNI (287) PvuII (239)

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCCACATGGCAACTGTTCTGAACTCAACTGTGAAATGCCACC

601 TTTTGACAGTGATGAGAATGACCTGTTCTTTGAAGTTGACGGACCCCAAAAGATGAAGGGCTGCTTCCAAACCTTTGACCTGGGCTGTCTGATGAGAGC 1▶ M A T V P E L N C E M P P

13▶ F D S D E N D L F F E V D G P Q K M K G C F Q T F D L G C P D E S

701 ATCCAGCTTCAAATCTCGCAGCAGCACATCAACAAGAGCTTCAGGCAGCAGTATCACTATTGGCTGTGGAGAAGCTGTGCAGCTACCTGTGCTT 47▶ I Q L Q I S Q Q H I N K S F R Q A V S L I V A V E K L W Q L P V S

SapI (856) 801 TCCCGTGGACCTTCCAGGATGAGGACATGAGCACCTTCTTTTCTTTCATCTTTGAAGAAGAGCCATCCTCTGTGACTCATGGGATGATGATAACCT 80▶ F P W T F Q D E D M S T F F S F I F E E E P I L C D S W D D D D N L

NdeI (980) **BstXI (999)** 901 GCTGGTGTGTGACGTTCCATTAGACAACCTGACTACAGGCTCCGAGATGAACAACAAAAAGCCTCGTGTGCTGGACCCATATGAGCTGAAAGCTCTC 113▶ L V C D V P I R Q L H Y R L R D E Q Q K S L V L S D P Y E L K A L

BsrGI (1050) 1001 CACCTCAATGGACAGAATATCAACCAACAAGTGATATTCTCCATGAGCTTTGTACAAGGAGAACCAAGCAACGACAAAATACCTGTGGCCTTGGGCCTCA 147▶ H L N G Q N I N Q Q V I F S M S F V Q G E P S N D K I P V A L G L

PvuII (1153) 1101 AAGGAAAGAACTATACCTGTCTGTGAATGAAAGACGGCACACCCACCTGCAGCTGGAGAGTGTGGATCCCAAGCAATCCCAAGAAAGAAGATGGA 180▶ K G K N L Y L S C V M K D G T P T L Q L E S V D P K Q Y P K K K M E

1201 AAAACGGTTTGTCTTCAACAAGATAGAAGTCAAGAGCAAAGTGGAGTTTGTGAGTCTGCAGAGTTCGCCAACTGGTACATCAGCACCTCACAAGCAGAGCAC 213▶ K R F V F N K I E V K S K V E F E S A E F P N W Y I S T S Q A E H

MscI (1378)
NheI (1372) 1301 AAGCCTGTCTTCTGGGAAACAACAGTGGTCAGGACATAATTGACTTCACAATGGAATCTGTGCTTCTTAAGCTAGCTGGCCAGACATGATAAGATACA 247▶ K P V F L G N N S G Q D I I D F T M E S V S S •

1401 TTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTGTGAAATTTGTGATGCTATTGCTTTATTGTAACCATTATAAGCTG

HpaI (1510) **MfeI (1521)** 1501 CAATAAACAGTTAAACAACAATTGCATTATTTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGT

EcoRI (1606) 1601 GGTATGGAATTCTAAAATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGG

SapI (1788) 1701 GGCTGTTGCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGTGTGAACTAGCTCTTCATTTT

SspI (1845) **SwaI (1859)** 1801 TTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATT

EcoO109I (1920) 1901 AGGCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAA

2001 AGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAG 144▶ • 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 F C

SacI (2120) **BstXI (2149)** 2101 TCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCA 112▶ 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 V A V

StuI (2284) 2201 CAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCTGCCAATGTAGGCCTCAATGTGGAC 79▶ 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 I H V

2301 AGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGCTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACC 46▶ 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 E V

XmnI (2426) **AseI (2492)** 2401 AGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCAATGGTGGCCCTCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTG 12▶ L E L D Q Q S I N F T K M

2501 TCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACGCCCATTTGCG
SacI (2549)

2601 TCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTGATTTACTAGTCAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCC
SpeI (2647)

2701 CCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGA
SnaBI (2775)

2801 AAGTCCATAAAGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTA
NdeI (2880)

2901 CTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAA

3001 TGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAA
PacI (3066) SdaI (3058) BspLU11I (3076)

3101 AGGCCAGGAACCGTAAAAAGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCG
BspLU11I (3076)

3201 AAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCC

3301 TTTCTCCCTTCGGAAGCGTGGCGTTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAAC
ApaLI (3390)

3401 CCCCCTTCAGCCGACCCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAA

3501 CAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCT

3601 CTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGA

3701 TTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTCAT

3801 GGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTAATCGTAACATAACG
PacI (3806) SmaI (3815) NotI (3825) EagI (3826)

3901 CTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA