



PvuI (7)
SgfI (6)
MfeI (82)

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)

Psp1406I (203)
PvuII (239)
Bsu36I (291)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAATGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

BstEII (555)

AgeI (552)
NcoI (560)
BamHI (581)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCACCATGGGAACCCCAAAGCCACGGATCCTGCCCTGGCTGGT

1▶ M G T P K P R I L P W L V

PvuII (604)
NdeI (749)

601 GTCGCAGCTGGACCTGGGGCAACTGGAGGGCTGGCCTGGGTGAACAAGAGCCGACGCGCTTCCGCATCCCTTGAAGCACGGCCTACGGCAGGATGCA

13▶ S Q L D L G Q L E G V A W V N K S R T R F R I P W K H G L R Q D A

701 CAGCAGGAGGATTTCCGAATCTTCCAGGCTGGCCGAGGCCACTGGTGCATATGTTCCCGGAGGGATAAGCCAGACCTGCCAACCTGGAAGAGGAATT

47▶ Q Q E D F G I F Q A W A E A T G A Y V P G R D K P D L P T W K R N

BsrBI (801)
BspEI (930)
ScaI (952)
XmnI (970)

801 TCCGCTCTGCCCTCAACCGCAAAGAAGGTTGCGTTTAGCAGAGGACCGGAGCAAGGACCCTCACGACCCACATAAAATCTACGAGTTTGTGAACTCAGG

80▶ F R S A L N R K E G L R L A E D R S K D P H D P H K I Y E F V N S G

901 AGTTGGGACTTTTCCAGCCAGACACCTCTCCGGACCAATGGTGGAGGCAGTACTTCTGATACCCAGGAAGACATTCTGGATGAGTTACTGGGTAAC

113▶ V G D F S Q P D T S P D T N G G G S T S D T Q E D I L D E L L G N

SmaI (1026)

1001 ATGGTGTGGCCCACTCCAGATCCGGGACCCCAAGCCTGGCTGTAGCCCTGAGCCCTGCCCTCAGCCCTGCGGAGCCCAAGCTGGACAATCCCA

147▶ M V L A P L P D P G P P S L A V A P E P C P Q P L R S P S L D N P

1101 CTCCTTCCCAAACCTGGGGCCCTCTGAGAACCCTGAAGCGGCTGTTGGTCCCGGGGAAGAGTGGGAGTTCGAGGTGACAGCCTTCTACCGGGGCCG

180▶ T P F P N L G P S E N P L K R L L V P G E E W E F E V T A F Y R G R

MscI (1282)

1201 CCAAGTCTCCAGCAGACCATCTCCTGCCCGAGGGCCTGCGGCTGGTGGGTCCGAAGTGGGAGACAGGACGCTGCCTGGATGGCCAGTCACACTGCCA

213▶ Q V F Q Q T I S C P E G L R L V G S E V G D R T L P G W P V T L P

1301 GACCCTGGCATGTCCCTGACAGACAGGGGAGTGATGAGCTACGTGAGGCATGTGCTGAGCTGCCTGGTGGGGGACTGGCTCTTGGCGGGCCGGGAGT

247▶ D P G M S L T D R G V M S Y V R H V L S C L G G G L A L W R A G Q

1401 GGCTCTGGGCCAGCGGCTGGGGCACTGCCACATACTGGGCAGTGAAGCAGGAGCTGCTCCCAACAGCGGCATGGGCTGATGGCGAGGTCGCCAA

280▶ W L W A Q R L G H C H T Y W A V S E E L L P N S G H G P D G E V P K

BglII (1542)

1501 GGACAAGGAAGGAGGCGTGTGGACCTGGGGCCCTTATTGTAGACTGATTACCTTCACGGAAGGAAGCGGACGCTCACCACGCTATGCCCTCTGGTTC

313▶ D K E G G V F D L G P F I V D L I T F T E G S G R S P R Y A L W F

Bsu36I (1674)

BbrPI (1668)

1601 TGTGTGGGGAGTTCATGGCCCCAGGACCAGCCGTGGACCAAGAGGCTCGTGTGGTCAAGGTTGTGCCACGTGCCTCAGGGCCTTGGTAGAAATGGCCC

347▶ C V G E S W P Q D Q P W T K R L V M V K V V P T C L R A L V E M A

PstI (1795)

SdaI (1794)

1701 GGGTAGGGGTGCCTCCTCCCTGGAGAATACTGTGGACCTGCACATTTCCAACAGCCACCCACTCTCCTCACCTCCGACCAGTACAAGGCCTACCTGCA

380▶ R V G G A S S L E N T V D L H I S N S H P L S L T S D Q Y K A Y L Q

BstXI (1824)

1801 GGACTTGGTGGAGGCATGGATTTCCAGGGCCCTGGGAGACCTGAGCCCTCGCTCCTCATGGTGTGCCCTCAACCCCTGTTCCCAACCACTCAACC

413▶ D L V E G M D F Q G P G E T •

MscI (1911)

NheI (1905)

1901 AATAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGA

HpaI (2043) **MfeI (2054)**

2001 TGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACAAATTGCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGAG

EcoRI (2139)

2101 GTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAATACAGCATAGCAAACTTAACTCCAATCAAGCCTCTACTTGAATCCT

2201 TTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGT

2301 **SapI (2321)** **SspI (2378)** **Swal (2392)**
ATTTTCCAAGGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCCTTTTTAGTAAATATTCAGAAATAATTTAAAT

2401 ACATCATTGCAATGAAAATAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACA

2501 AAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACC
141 • N R T Y K L P I L E E I T T K V

2601 **SacI (2653)** **BstXI (2682)**
AGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGT
123 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 D
2701 CCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGAC
90 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
2801 AGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTCTCCTATAG
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

BspHI (2967)
XmnI (2959)
2901 AGCATGGTGTCTTCTCAGTGGCAGCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTAT
23 L M T I K E T A V E V L E L D Q Q S I N F T K M

AseI (3025) **SacI (3082)**
3001 ACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGA

SpeI (3180)
3101 CCTCCCACGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCC
3201 ATTGACGTCAATGGGGTGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCG

SnaBI (3308)
3301 ATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGCATAATGCCAGGGCGGCCATTTACCGTCATTGACGTCAATAG

NdeI (3413)
3401 GGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGT

PstI (3592) **SdaI (3591)** **PacI (3599)**
3501 TACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTGCAGGT

BspLUIII (3609)
3601 TAAITAAAGAATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCA
3701 TCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCGACAGGACTATAAAGATACCAGGCGTTTTCCCGTGAAGCTCCCTCGTGCCTCTCTGTT
3801 CCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGTTGAGG

ApaLI (3923)
3901 TCGTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAGACA
4001 CGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGC
4101 TACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCGCAAAACAAACCACCGCTG
4201 GTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTG

EagI (4359) **PacI (4339)** **Swal (4348)** **NotI (4358)**
4301 GAACGAAAACACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTG
4401 TTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGG
4501 TGCCAGAACATTTCTCTATCGAA