



PvuI (7)
SgfI (6)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) **PvuII (239)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCGCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

KasI (535) **AgeI (552)** **BspHI (560)**
501 TCTGTTCTGGCGGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCAccggtcatCATGAGATATATCAGAAGCATTACATATTTTGTAGTAT
601 TGTACGTCGTGCGTAGTGGGGCTTCAGAGCTGCCGAAGAAAGGAATTGACTACCAACTTCCAGCATGTCTTTAAACAAAGGTTCTGAAGGCTTG
130 V T S V R S G A S E L P E E R E L T T N F S S M S L T K V P E G L
701 ACCCCAATTACAACCACATTGGATTTGTCTTATAATCTCTTTTCAACTCCAGCATTAGATTTCCGTTCTCTCTAAACTGAAAGTTTGTATTCTAT
47 T P I T T T L D L S Y N L L F Q L Q H S D F R S L S K L K V L I L
801 GCCACAACAGAATCCAAGAGCTGGATATCAAGACCTTTGAATCAACAAGGAGTTAAGCTACTTAGATGTGTCTAACAACAGACTGAAGAGTGTAACTG
80 C H N R I Q E L D I K T F E F N K E L S Y L D V S N N R L K S V T W
901 GTTCTCACTGGCAGGTCTCAGACATTTAGATCTGTCTTCAATGACTTTGACACTCTGCCTATCAGCGTAGAAACTGGCAACATGTCACACCTGGAAACC
113 F S L A G L R H L D L S F N D F D T L P I S V E T G N M S H L E T
1001 CTAGGTTTGTGGGGCAAAAATACAAAATCAGATTTTCAAAAATGCTCATTGTCAGCTAAATACCGTCTTATTAGGATTGAGAAGTCTATCTCATT
147 L G L S G A K I Q K S D F Q K I A H L Q L N T V L L G L R T L S H

BglII (927) **AvrII (999)**
1101 ATGAAGAAGGTAGCTTGGCCATCTTAAACACAACAAGACTTACATTGTGTTACCAGTGAACACAAAATTTCTGGGTTCTTTTGCATGATGGAATCAAAAC
180 Y E E G S L P I L N T T R L H I V L P V N T N F W V L L H D G I K T
1201 TTCAAAAATATTAGAAGTCATCAATATAGATTTGCAAAAAGAGCCAGTTTACGAGTTATGAATCTCAACAAATTCCTATTTTGAAAAATGCCAAGACATCC
213 S K I L E V I N I D L Q K S Q F T S Y E S Q Q I P I L E N A K T S

ScaI (1379)
1301 ATTCTGTTACTTAATAAAGTTGACTTATCTGGGACGATCTTTTCTCATCTTCCAATTGGTTTGGCATAATCAGTAGAGTACTTTTCAAGATTCAACATG
247 I L L L N K V D L S W D D L F L I F Q L V W H T S V E Y F Q I Q H

BsrGI (1482)
1401 TGACCTTTGGAGGTAAGGTTTATCTTGACCACAATTCATTTGACTACTCAAATACTGTAATGAGAAGTATAAACTGGAACATGTACATTTTAGAATTTT
280 V T F G G K V Y L D H N S F D Y S N T V M R T I K L E H V H F R I F
1501 TAATATCCCCAGGAGAGCATCTACTTGTCTTTTACCAAAAATGGATATAGAAAACCTGACAATATCAGATGCACAAAATGCCTCACATGCTGTTCCCTATG
313 N I P Q E S I Y L L F T K M D I E N L T I S D A Q M P H M L F P M
1601 TACCCTACAAGATTCCAATTTTAAATTTTCGTAATAATCTTAAACAGATGATGTGTTTAAAAAATCTATCCAATGCTCATTGAAAACCTCCTCATC
347 Y P T R F Q Y L N F A N N I L T D D V F K K S I Q L P H L K T L I

Bsu36I (1758) **BglII (1770)**
1701 TGAAGGACAATAAATGGAGACACTTTCCTTAGTGAGTCACTTTGCCAGCAACACATCCCTGAGGCACTTAGATCTGAGTGAAAATCTGTTACAACATGA
380 L K D N K L E T L S L V S H F A S N T S L R H L D L S E N L L Q H E

MscI (1819) **BstEII (1833)**
1801 AAATGATGAAAATGCTTGTGGCCAGAAACCTTGGTCAACATGAACCTTGTCAATCAACAAAATTTGCTGATTCTGTTTTGGGTGCTTGCCTAGAAACATT
413 N D E N C L W P E T L V T M N L S F N K F A D S V F G C L P R N I
1901 CAAACTGGACCTGAATAGTAACAAAATTCAAACTGTCCCTAAAGCATTACTCACCTGACATCTTTGCGAGAGTAAATCTTGCAATTAATTTTCTAA
447 Q I L D L N S N K I Q T V P K A I T H L T S L R E L N L A F N F L

Psp1406I (2044)
2001 CTGATCTTCTGGGTGCAGTCATTTCAGAAGACTCTTAGTTCTGAACGTTGAAATGAACCTAATTCCTCAGCTCATCTCTGGATTTTTCCAGAGCTGCCA
480 T D L P G C S H F R R L L V L N V E M N L I L S S S L D F F Q S C Q
2101 GGAAGTAAAACTCTAAATGCAGGAAGAAATCCATTCCGATGACTTGTGAATTAAGAGATTTCACTCAGCTTGGAAAATACTCAGAAGGCATGATGGTT
513 E V K T L N A G R N P F R C T C E L R D F I Q L G K Y S E G M M V

BsaBI (2260)
2201 GGATGGTCAGATTCATACATCTGTGAATACCCTTTGAATCTAAAGGGGACTCAGTTAAAGGATGTTTCATCTTCCAGAAAATATCTTGAACACAGGTTTGC
547 G W S D S Y I C E Y P L N L K G T Q L K D V H L P E I S C N T G L
2301 TGATTGTCACCATTTGTGGTTGTCTGCTGTTGGGGATGGCTGTGGCCTTCTGCTCCCTCCACTTTGATTTGCCCTGGTATCTCAGGATGCTGCATCA
580 L I V T I V V V M L V L G M A V A F C C L H F D L P W Y L R M L H Q
2401 ATGGACTCAGACATGGCTCAGGGTTAGGAAGACAACCTCAGGAACAACCTAAAAGAAAGTGTCCAATTCATGTGTTTATTTTACATACAGTGAACATGATTCT
613 W T Q T W L R V R K T T Q E Q L K R S V Q F H V F I S Y S E H D S

XbaI (2529) **BspHI (2565)**
2501 GCCTGGGTGAAGTATGAATTGATCCAGTCTAGAGAAAAGATGGTTCTGTTCTGATTTGCCTTCATGAGGGAAAACCTGACCTGGCAAGAGCATGA
647 A W V K Y E L I P S L E K E D G S V L I C L H E G N S D P G K S M
2601 CTGAAGATACCATAAACTGCATTGAGAAAAGTTACAAGTCCATCTTTGTTTTGTCTCCAGCTTTGTCCAGACTGAATGGTGCATTATGAACCTACTT
680 T E D T I N C I E K S Y K S I F V L S P S F V Q T E W C H Y E P Y F

EcoRV (2786)
2701 TGCCACCACAATCTCTTCCATGAAAGTCTTGATTACATAATTCTTATCTTACTGGAACCCATTCACCTACTAGCATCCCTACCAGATATCCGAGAGCTG
713 A H H N L F H E S L D Y I I L I L L E P I P L Y C I P T R Y P E L

SapI (2884)

2801 AAAGCTCTCATGGAAAAGAAAGCATACTTGAATGGCCCAAGGATAGGCGTAAATGTGGCCTTTTTGGGCAAACCTTCGAGCTGCTCTTCATGTTAATT
747▶ K A L M E K K A Y L E W P K D R R K C G L F W A N L R A A L H V N
2901 TATTAGACACAGAGGGACATGTGAACACTACAGACATTCACAGAACTGAATGAAGGGTTTGGAGGTTCTGCAATCTCTCTGATCAGAACAGACTGCCTGTA
780▶ L L D T R G T C E L Q T F T E L N E G F G G S A I S L I R T D C L •

MscI (3008)

NheI (3002)

3001 GAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGC
813▶

HpaI (3140)

3101 TATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAAACAACAACATTGCATTCATTTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTT

EcoRI (3236)

3201 TTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTT

3301 CTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTTTTCATGGAGTTAAGATATAGTGATT

SapI (3418)

3401 TTCCAAGGTTTGAAGTCTCTTCATTTCTTTATGTTTTAAATGCAGCTGACCTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACA

EcoO109I (3550)

3501 TCATTGCAATGAAAAATAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGACTTAGGGAACAAG

3601 GAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGC
141▶ • N R T Y K L P I L E E I T T K V L

SacI (3750)

BstXI (3779)

3701 TTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCA

122▶ 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 V

3801 CCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGCCCAATGGCAATGGCTTCAGCACAGACAGT

89▶ 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 T

StuI (3914)

3901 GACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCGACATGGTCTTGTGCTCATAGAGC

56▶ 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 L

4001 ATGGTGATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACT

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

AseI (4122)

SacI (4179)

4101 ATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAACAGAGCTCTGCTTATATAGACCT

SpeI (4277)

4201 CCCACCGTACACGCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGGAAAGTCCGTTGATTTACTAGTCAAAAACAACTCCATT

4301 GACGTCATAGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATGTTAATAGCGATG

SnaBI (4405)

4401 ACTAATACGTAGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCAATTGACGTCAATAGGGG

NdeI (4510)

4501 GCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTAC

PacI (4696)

PstI (4689)

SdaI (4688)

4601 TATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAA

4701 ITAAGAACATGTGAGCAAAAGGCCAGAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGCGGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCA

4801 CAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGTCCCTCGTGCCTCTCTGTTCCG

4901 ACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCG

ApaLI (5020)

5001 TTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTGAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAAGTCCAACCCGGTAAGACACGA

5101 CTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTAC

5201 ACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTATCCGGCAAAACAAACCACCGCTGGTA

5301 GCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAA

EagI (5456)

PacI (5436)

NotI (5455)

5401 CGAAAACACGTTAAGGGATTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAAATATCTTTATTTTTCATTACATCTGTGTGTTG

5501 GTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAACTAGCAAAATAGGCTGTCCCAAGTGAAGTGCAGGTGC

5601 CAGAACATTTCTCTATCGAA