



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGGATCGCTCCGGTGCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA **EcoNI (96)**  
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** 201 **PvuII (239)** **Bsu36I (291)**  
GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCGCCCGCCCTACCTGAGGCC **EcoNI (287)**  
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 **NgoMIV (441)**  
GGGCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

501 **BspHI (560)**  
**AgeI (552)** TCTGTTCTGGCGGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTCATCATGATGGTCGCTCCTGGGCGGCAGACCCTAGTGCCT **Bsu36I (699)**  
1▶ M M V V L L G A T T L V L

601 **NcoI (613)** **SalI (673)** **Bsu36I (699)**  
CGTCGCCGTGGCGCCATGGTGTTCGCCAGCCGAGGTGAAAAAATCTAAATCTCCTCAAAAAGTAGAGTGCACATCATAGATGACAACCTTTATC  
13▶ V A V A P W V L S A A A G G K N L K S P Q K V E V D I I D D N F I  
701 CTGAGGTGGAACAGGAGCGATGAGTCTGTCCGGATGTGACTTTTTTCATTGATTATCAAAAAGTGGATGGATAATTGGATAAAATGTCTGGGTGTC  
47▶ L R W N R S D E S V G N V T F S F D Y Q K T G M D N W I K L S G C

801 **SpeI (808)**  
AGAATATTACTAGTACCAAAATGCAACTTTTCTCACTCAAGCTGAATGTTTATGAAGAAATTAATTCGCTATAAGAGCAGAAAAAGAAAACACTTCTTC  
80▶ Q N I T S T K C N F S S L K L N V Y E E I K L R I R A E K E N T S S

901 **BsaBI (990)**  
ATGGTATGAGGTTGACTCATTACACCATTTCGAAAGCTCAGATTGGTCTCCAGAAGTACATTTAGAAGCTGAAGATAAGGCAATAGTGATACACATC  
113▶ W Y E V D S F T P F R K A Q I G P P E V H L E A E D K A I V I H I  
1001 TCTCCTGGAACAAAAGATAGTGTATGTGGGCTTTGGATGGTTAAGCTTTACATATAGCTTACTTATCTGGA AAAACTCTCAGGTGTAGAAGAAAGGA  
147▶ S P G T K D S V M W A L D G L S F T Y S L L I W K N S S G V E E R  
1101 TTGAAAATATTTATCCAGACATAAAATTTATAAACTCTCACCAGAGACTACTTATTGTCTAAAAGTTAAAGCAGCACTACTACGTCATGGA AAAATTGG  
180▶ I E N I Y S R H K I Y K L S P E T T Y C L K V K A A L L T S W K I G  
1201 TGCTATAGTCCAGTACATTGTATAAAGACCACAGTTGAAAATGAACTACCTCCACGAAAAATAGAAAGTCAAGTGTCCAAAATCAGAACTATGTTCTT  
213▶ V Y S P V H C I K T T V E N E L P P P E N I E V S V Q N Q N Y V L

1301 **NdeI (1313)**  
AAATGGGATTATACATATGCAAAACATGACCTTTCAAGTTCAGTGGCTCCACGCCTTTTAAAAAGGAATCCTGGA AACCTTTGTATAAATGGA AACAAA  
247▶ K W D Y T Y A N M T F Q V Q W L H A F L K R N P G N H L Y K W K Q

1401 **Psp1406I (1447)**  
TACCTGACTGTGAAAATGTCAAAACTACCCAGTGTGTCTTTCTCAAAACGTTTTTCAAAAAGGAATTTACCTTCTCCGCTACAAGCATCTGATGGA AA  
280▶ I P D C E N V K T T Q C V F P Q N V F Q K G I Y L L R V Q A S D G N  
1501 TAACACATCTTTTGGTCTGAAGAGATAAAGTTTGATACTGAAATACAAGCTTCTACTTCTCCAGTCTTTAACATTAGATCCCTTAGTGATTCATTC  
313▶ N T S F W S E E I K F D T E I Q A F L L P P V F N I R S L S D S F  
1601 CATATCTATATCGGTGCTCCAAAACAGTCTGAAAAACGCCTGTGATCCAGGATTACCACTGATTTATGAAATTTATTTTGGGAAAACACTTCAAAATG  
347▶ H I Y I G A P K Q S G N T P V I Q D Y P L I Y E I I F W E N T S N

1701 **NcoI (1790)**  
CTGAGAGAAAAATTATCGAGAAAAAACTGATGTTACAGTTCCTAATTTGAAACCACTGACTGTATATTGTGTGAAAGCCAGAGCACACACCATGGATGA  
380▶ A E R K I I E K K T D V T V P N L K P L T V Y C V K A R A H T M D E

1801 **BstAPI (1897)**  
AAAGCTGAATAAAAGCAGTGTTTTTAGTGACGCTGTATGTGAGAAAAAAAACAGGAAATACCTCTAAAATTTGGCTTATAGTTGGAATTTGTATTGCA  
413▶ K L N K S S V F S D A V C E K T K P G N T S K I W L I V G I C I A

1901 **NsiI (1947)**  
TTATTTGCTCTCCGTTTGTCAATTTATGCTGCGAAAGTCTTCTTGAGATGCATCAATTATGCTTCTTTCCATCACTTAAACCTTCTTCCAGTATAGATG  
447▶ L F A L P F V I Y A A K V F L R C I N Y V F F P S L K P S S S I D  
2001 AGTATTTCTCTGAACAGCCATTGAAGAATCTTCTGCTTTCAACTCTGAGGAACAAAATGAAAATGTTTCATAATTGAAAATATAAGCACAAATTGCTAC  
480▶ E Y F S E Q P L K N L L L S T S E E Q I E K C F I I E N I S T I A T

2101 **BsaBI (2122)**  
AGTAGAAGAACTAATCAAACTGATGAAGATCATAAAAAATACAGTTCCTCAAACTAGCCAAGATTGAGAAATTTATCTAATGAAGATGAAAGCGAAAGT  
513▶ V E E T N Q T D E D H K K Y S S Q T S Q D S G N Y S N E D E S E S

2201 **MscI (2242)** **NheI (2236)**  
AAAACAAGTGAAGAACTACAGCAGGACTTTGTATGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACTAGAATGCAGT  
547▶ K T S E E L Q Q D F V •

2301 **HpaI (2374)**  
GAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCATTT

2401 **EcoRI (2470)**  
TATGTTTCAGGTTACGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTT

2501 AACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTC

2601 **SapI (2652)**  
ACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGTTTGAAGTACTCTTCAATTTTATGTTTTAAATGCACTGACCTCCACATTCCCT

2701 TTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAT

2801 CCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTAGCTTTAGTTCCTGGTGTACTTGAG

EcoO109I (2784)

141 • N R T Y K L

2901 GGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATG

SacI (2984)

134 P I L E E I T T K V L K G N M E I L V F C D P A Y D S I L E R C M

BstXI (3013)

3001 CCACAGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGCTTCTGCCGTTGCTCACAG

100 G C P S V V R I S R D V E D S Y P H R V A V I T D F D K Q G N S V A

StuI (3148)

3101 CAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGC

67 S G I A I A E A C V T V R G I Y A E I H V A S I I E G T K T R I A

3201 CGCCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTC

34 A G V H H K N D E Y L M T I K E T A V E V L E L D Q Q S I N F T K

AseI (3356)

3301 ATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGA

0 M

SacI (3413)

3401 CGGTTCACTAAACGAGCTCTGTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGT

SpeI (3511)

3501 CCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA

SnaBI (3639)

3601 CTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGACTGGGCATAATGCCAG

NdeI (3744)

3701 GCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCC

3801 ATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTATTATTGACGTCAATGGCGGGGGTCTGTTGGCGGTACAGCCAGGCGGGCC

PacI (3930)

PstI (3923)

SdaI (3922)

BspLU11I (3940)

3901 ATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGT

4001 TTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCC

4101 CCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGC

ApaLI (4254)

4201 TCACGCTGTAGGTATCTCAGTTCGGGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTAGCCCGACCGCTGCGCCTTATCCGGTA

4301 ACTATCGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGT

4401 AGAGTTCCTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGT

4501 AGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTT

EagI (4690)

PacI (4670) SwaI (4679) NotI (4689)

4601 TGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAAT

4701 AAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAG

4801 CAAAATAGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA