



125

**PvuI (7)**  
**SgfI (6)** 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA MfeI (82) EcoNI (96)

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCAGAGGGCTCGCATCTCTCCTTACGCGCCCGCGCCCTACCTGAGGCC EcoNI (287)

301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

**NgoMIV (441)**  
**NgoMI (441)**  
**NaeI (441)**

501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGGCTACTCTGAGATCACCGGTCACCATGGCCGAGTATTCTGGAGAGCATCTTTCTGAAGCG **NcoI (560)**  
**BstEII (555)**  
**KasI (535)** **AgeI (552)** 1▶ M A A V I L E S I F L K R  
**ApaLI (661)**

601 ATCCCAACAGAAAAAGAAAACATCACCTCTAAACTTCAAGAAGCGCCTGTTTCTTTGACCGTGCACAACTCTCCTACTATGAGTATGACTTTGAACGT  
13▶ S Q Q K K K T S P L N F K K R L F L L T V H K L S Y Y E Y D F E R  
701 GGGAGAAGAGGAGTAAAGAGGTTCAATAGATGTTGAGAAGTCACTGTGTGAAACAGTGGTTCCTGAAAAAATCCTCCTCCAGAAAGACAGATTC  
47▶ G R R G S K K G S I D V E K I T C V E T V V P E K N P P E R Q I  
801 CGAGAAGAGGTGAAGAGTCCAGTGAATGGAGCAAATTTCAATCATTGAAAGGTTCCCTTATCCCTTCCAGGTTGTATATGATGAAGGCGCTCTCTACGT  
80▶ P R R G E E S S E M E Q I S I I E R F P Y P F Q V V Y D E G P L Y V  
901 CTTCTCCCAACTGAAGAATAAGGAAGCGGTGGATTACCAGCTCAAAAACGTAATCCGGTACAACAGTGTCTGGTTCAGAAATATCACCTTGCTTC  
113▶ F S P T E E L R K R W I H Q L K N V I R Y N S D L V Q K Y H P C F

**ClaI (1003)** 1001 TGGATCGATGGCAGTATCTCTGCTGCTCTCAGACAGCAAAAATGCTATGGGCTGCCAAATTTGGAGAACAGGAATGGAAGCTTAAAACCTGGGAGTT  
147▶ W I D G Q Y L C C S Q T A K N A M G C Q I L E N R N G S L K P G S

**BglIII (1148)** 1101 CTCACCGAAGACAAAAAGCCTTCCCCCAACGCCTGAGGAGGACAGATCTTGAAAAAGCCACTACCGCCTGAGCCAGCAGCAGCACCAGTCTCCAC  
180▶ S H R K T K K P L P P T P E E D Q I L K K P L P P E P A A A P V S T  
1201 AAGTGAGCTGAAAAAGTTGTGGCCCTTATGATTACATGCCAATGAATGCAATGATCTACAGCTGCGGAAGGGTGATGAATATTTTATCTTGAGGAA  
213▶ S E L K K V V A L Y D Y M P M N A N D L Q L R K G D E Y F I L E E

**NcoI (1309)** 1301 AGCAACTTACCATGGTGAGAGCAGAGATAAAAAATGGCAGGAAGGCTACATTCCTAGTAACATGTCACTGAAGCAGAAGACTCCATAGAAATGTATG  
247▶ S N L P W W R A R D K N G Q E G Y I P S N Y V T E A E D S I E M Y  
1401 AGTGGTATCCAAACACATGACTCGGAGTCAGGCTGAGCAACTGCTAAAGCAAGAGGGGAAAGAGGAGGTTTATTGTCAGAGACTCCAGCAAAGCTGG  
280▶ E W Y S K H M T R S Q A E Q L L K Q E G K E G G F I V R D S S K A G

**SmaI (1535)** 1501 CAAATATACAGTGTCTGTGTTTGTCTAAATCCACAGGGACCTCAAGGGGTGATACGTCATTATGTTGTGTGTTCCACACCTCAGAGCCAGTATTACCTG  
313▶ K Y T V S V F A K S T G D P Q G V I R H Y V V C S T P Q S Q Y Y L  
1601 GCTGAGAAGCACCTTTTACGACCATCCCTGAGCTCATTAACTACCATCAGCACAACCTGCGAGGACTCATATCCAGGCTCAAATATCCAGTGTCTCAAC  
347▶ A E K H L F S T I P E L I N Y H Q H N S A G L I S R L K Y P V S Q

**BsiBI (1733)**  
**BsaBI (1733)** 1701 AAAACAAGATGCACCTTCCACTGCAGGCTGGGATACGGATCATGGGAAATTGATCCAAAGGACCTGACCTTCTGAAGGAGCTGGGGACTGGACAATT  
380▶ Q N K N A P S T A G L G Y G S W E I D P K D L T F L K E L G T G Q F

**EcoRI (1882)** 1801 TGGGGTAGTGAAGTATGGGAAATGGAGAGGCCAGTACGACGTGGCCATCAAGATGATCAAAGAAGGCTCCATGTCTGAAGATGAATTCATTGAAGAAGCC  
413▶ G V V K Y G K W R G Q Y D V A I K M I K E G S M S E D E F I E E A

**BspHI (1904)** 1901 AAAGTCATGATGAATCTTCCATGAGAAGCTGGTGCAGTTGTATGGCGTCTGCACCAAGCAGCGCCCATCTTCATCATCACTGAGTACATGGCCAATG  
447▶ K V M M N L S H E K L V Q L Y G V C T K Q R P I F I I T E Y M A N

**NcoI (2084)** 2001 GCTGCCTCTGAACCTACCTGAGGAGATGCGCCACCGCTTCCAGACTCAGCAGCTGCTAGAGATGTGCAAGGATGTCTGTGAAGCCATGGAATACCTGGA  
480▶ G C L L N Y L R E M R H R F Q T Q Q L L E M C K D V C E A M E Y L E  
2101 GTCAAAGCAGTTCCTTCCAGGACCTGGCAGCTGAAACTGTTTGGTAAACAGTCAAGGAGTGTGTTAAAGTATCTGATTTCCGCGCTGCCAGTATGTC  
513▶ S K Q F L H R D L A A R N C L V N D Q G V V K V S D F G L S R Y V  
2201 CTGGATGATGAATACACAAGCTCAGTAGGCTCAAATTTCCAGTCCGGTGGTCCCCACCGGAAGTCTGATGTATAGCAAGTTCAGCAGCAAATCTGACA  
547▶ L D D E Y T S S V G S K F P V R W S P P E V L M Y S K F S S K S D

**NdeI (2351)** 2301 TTTGGGCTTTTGGGGTTTTGATGTGGGAAATTTACTCCCTGGGGAAGATGCCATATGAGAGATTTACTAACAGTGAAGTCTGTAACACATTGCCAAGG  
580▶ I W A F G V L M W E I Y S L G K M P Y E R F T N S E T A E H I A Q G

**BsrGI (2450)** 2401 CCTACGTCTCTACAGGCCTCATCTGCTTCCAGAGAAGGTATATACCATCATGTACAGTTGTTGGCATGAGAAAGCAGATGAGCGTCCCACTTTCAAAT  
613▶ L R L Y R P H L A S E K V Y T I M Y S C W H E K A D E R P T F K I

**XbaI (2514)** 2501 CTTCTGAGCAATATTCTAGATGTCATGGATGAAGAATCCTGAGCTCGCAATAAGCTTCTTGTAGCTGGCCAGACATGATAAGATACATTGATGAGTTT  
647▶ L L S N I L D V M D E E S • **NheI (2561)**

2601 GGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAG

MfeI (2710)

EcoRI (2795)

2701 TTAACAACAACAATTGCATTCTTTTATGTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATT

2801 CTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTTTGCCA

2901 ATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGATTTTCCCAAGTTTGAAGTAGCTCTTCAATTTCTTTATGTTTAA

SwaI (3048)

3001 AATGCACTGACCTCCCACATTCCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAAATCC

3101 AGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCT

3201 AGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATA

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 F C D P A Y

3301 GTCAGAGATGAGCTCTGCACATGCCACAGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCA

109 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 I T D

3401 AAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGA

75 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 A S I I

3501 TCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACAGCTCCAGATC

42 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 L E L D

BspHI (3623)

VspI (3681)

XmnI (3615)

AseI (3681)

3601 CTGCTGAGAGATGTTGAAGGTTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGG

9 Q Q S I N F T K M

3701 TGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCCATTTGCGTCAATGGGGCG

SpeI (3836)

3801 GAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCA

SnaBI (3964)

Eco105I (3964)

3900 AACCGTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATA

NdeI (4069)

4000 AGGTCATGTACTGGGCATAATGCCAGCGGGCCATTTACCCTGATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCAAGTG

4100 GGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGCGGGGG

SdaI (4247) PacI (4255)

BspLU11I (4265)

4200 TCGTTGGGCGGTACGCCAGCGGGCCATTTACCCTAAGTTATGTAACGCCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGG

4298 AACCGTAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGA

4398 CAGGACTATAAGATAACAGCGTTTTCCCTGGAAAGTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCC

ApaLI (4579)

4498 TTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTCACGAACCCCGTT

4598 CAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTA

4698 GCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAA

4798 GCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGC

PacI (4995)

4898 AGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCAATGGCTAGTT

EagI (5015)

SwaI (5004)

NotI (5014)

4998 AATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTCCAT

5098 CAAAAACAAACGAAACAAACAAACTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA