



**PvuI (7)**  
**SgfI (6)**  
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAGGTGGCGCGGGTAAACTGGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **HindIII (245)**  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCGCTACCTGAGGCC  
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGCTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
**NaeI (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTGTTTCGTTT

**NcoI (560)**  
**BstEII (555)** **EcoO109I (596)**  
**AgeI (552)** **BspHI (590)** **SexAI (599)**  
501 TCTGTTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCACCATGGATGAACAAGAGGCATTAGACTCGATCATGAAGGA  
1 M D E Q E A L D S I M K D  
BstEII (670)  
601 CCTGGTGGCCTCCAGATGAGCCGACGAACCCGTTGTCTGGATATGAGACCATGAAGAATAAGGACACAGGTACCCAAACAGGCAGAGTGACGTGAGA  
13 L V A L Q M S R R T R L S G Y E T M K N K D T G H P N R Q S D V R  
PshAI (664)  
701 ATCAAGTTTGAACACAATGGGAGAGACGAATTATAGCATTACGCGGCTGTGAGATACGAAGATGTGGAGCACAAGGTGACAACAGTCTTTGGGCAGC  
47 I K F E H N G E R R I I A F S R P V R Y E D V E H K V T T V F G Q  
DraIII (772)  
801 CTCTTGATTTGCATTATATGAATAATGAGCTCTCCATCCTGTTGAAAAACCAAGATGATCTCGATAAAGCCATTGGATAGAAAGCTCAAGTAT  
80 P L D L H Y M N N E L S I L L K N Q D D L D K A I D I L D R S S S M  
XcmI (869)  
901 GAAAAGCCTTAGGATACTACTGTTATCCCAAGACAGAAACCACTAGTTCCTCTCCCACTCTGGAGTGTCCAGGCAGGTTCCGGATCAAGCCTTCCAG  
113 K S L R I L L L S Q D R N H T S S S P H S G V S R Q V R I K P S Q  
XmaI (1095)  
**SmaI (1095)**  
1001 TCTGCAGGGGATATAAATACCATCTACCAAGCTCCTGAGCCGAGAAGCAGGCACCTGTCTGTCAGTCCCAGAACCTGGCCGAAGCTCTCCTCCCCGG  
147 S A G D I N T I Y Q A P E P R S R H L S V S S Q N P G R S S P P P

**BamHI (1138)** **EcoRI (1168)**  
1101 GATATGTACTGTGAGCGACAACAGCACATTGCCCGCAAGGATCCTATACGAGCATCAACAGCGAAGGTGAATTCATCCCAGAGACCAGCGAACAGTGTAT  
180 G Y V P E R Q Q H I A R Q G S Y T S I N S E G E F I P E T S E Q C M  
1201 GCTAGATCCCCTCAGCAGTGCAGAAAATCCTTGTGAGGAGCTGCCAATCCTTGGACAGGTGACGAGACAGCCCATCCTTCAGGAAATCACAAATGTCC  
213 L D P L S S A E N S L S G S C Q S L D R S A D S P S F R K S Q M S  
1301 CGAGCCCGGAGCTTCCAGACAACAGAAAGGAATGCTCAGATCGGGAGACCCAGCTCTATGATAAAGGTGTCAAAGGTGGAACCTATCCCAGGCGCTACC  
247 R A R S F P D N R K E C S D R E T Q L Y D K G V K G G T Y P R R Y  
1401 ATGTGTCTGTGCATCACAAGACTACAATGATGGCAGAAGAACATTTCCCGAATACGACGGCATCAAGGCAACCTATCACTCTGGTCCCTCAAGTCG  
280 H V S V H H K D Y N D G R R T F P R I R R H Q G N L F T L V P S S R  
KasI (1559)  
1501 CTCCTTGAGCACAAATGGCGAGAACATGGGTGTAGCTGTGCAATACCTGGACCCCGTGGCGCCTACGGAGTGCAGACAGTGAAGTGCCTCACTGTG  
313 S L S T N G E N M G V A V Q Y L D P R G R L R S A D S E N A L T V  
1601 CAGGAAAGGAATGTGCCAACAAATCTCCTAGTGTCCCATCAATTGGCGTCGGGGGAAGCTCCTGGTCAAGTGCCTTCGGCAGGGTCTACTTGTGCT  
347 Q E R N V P T K S P A P I N W R R G K L L G Q G A F G R V Y L C  
1701 ATGATGTGGACACAGGACGTGAACTTCTAAGCAGGTCCAGTTGACCCAGATAGTCTGAGACAAGCAAGGAGGTGAGTGTCTGGAGTGTGAGAT  
380 Y D V D T G R E L A S K Q V Q F D P D S P E T S K E V S A L E C E I

**ScaI (1838)**  
1801 CCAGTTGCTGAAGAACCTGCAGCATGAGCGCATTGTGAGTACTACGGCTGCCTGCGGGACCGTGTGAGAAGATCCTCACCATCTTTATGGAGTATATG  
413 Q L L K N L Q H E R I V Q Y Y G C L R D R A E K I L T I F M E Y M

**StuI (1928)**  
**Eco147I (1928)**  
1901 CCAGGGGGCTCTGTAAAAGACCAGTTGAAGGCCTACGGAGCTCTGACAGAGAGTGTGACCCGCAAGTACACCCGGCAGATTCTGGAGGGCATGTCATACC  
447 P G G S V K D Q L K A Y G A L T E S V T R K Y T R Q I L E G M S Y

**HindIII (2071)**  
2001 TGCACAGCAACATGATTGTGCATCGGGACATCAAGGGAGCCAATATCCTCCGAGACTCAGCTGGGAATGTGAAGCTTGGGGATTTTGGGGCCAGCAAACG  
480 L H S N M I V H R D I K G A N I L R D S A G N V K L G D F G A S K R  
2101 CCTACAGACCATGTCATGTCAGGGACAGGCATTCTGCTGTCTGCTGACACCCCTACTGGATGAGTCTGAAGTTCATCAGTGGCGAGGGCTATGGAAGA  
513 L Q T I C M S G T G I R S V A T P Y W M S P E V I S G E G Y G R  
2201 AAGGCAGACGTGTGGAGCCTGGGCTGTACTGTGGTGGAAATGCTGACAGAGAAACACCTTGGGCAGAGTATGAAGCTATGGCTGCCATTTTCAAGATTG  
547 K A D V W S L G C T V V E M L T E K P P W A E Y E A M A A I F K I  
2301 CCACCCAGCCTACCAATCCTCAGCTGCCCTCTCACATCTCAGAACACGGCAGGACTTCTGAGGCGCATATTTGTGGAAGCTCGTCAGAGACCCCTCAGC  
580 A T Q P T N P Q L P S H I S E H G R D F L R R I F V E A R Q R P S A

**MscI (2469)**  
**BalI (2469)**  
**NheI (2463)**  
2401 TGAGGAGCTGCTCACACACCCTTTGCACAGCTAGTGTACTGAGCTCTCAAGGCTATGCAGCTGTAGCTGGCCAGACATGATAAGATACATTGATGAGT  
613 E E L L T H H F A Q L V Y •

2501 TTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACA

**HpaI (2601)** **EcoRI (2697)**

2601 AGTTAAACAACAACATTGCATTCATTTTATGTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAA

2701 TTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGC

2801 CAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTTGAAGTACTAGCTCTTCATTTCTTTATGTTT

2901 TAAATGCACTGACCTCCACATTCCTTTTTAGTAAAAATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAAT

**SspI (2936)** **SwaI (2950)**

3001 CCAGATGCTCAAGGCCCTTCAATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTT

**EcoO109I (3011)**

3101 CTAGCTTTAGTTCCTGGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCA

3201 TAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGCACGCCACAATGGTGT

109Y 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

**StuI (3375)** **Eco147I (3375)**

3301 CAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTACGACAGACAGTGACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGAT

76 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

3401 GATCTCCCGAGTCTTGGTCTGATGGCCGCCGACATGGTGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGA

43 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 L E L

**BspHI (3525)** **VspI (3583)** **AseI (3583)**

3501 TCCTGCTGAGAGATGTTGAAGGTTCTTATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAG

94 D Q Q S I N F T K M

3601 CGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGG

**SpeI (3738)**

3701 CGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAACCTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGT

**SnaBI (3866)** **Eco105I (3866)**

3800 CAAACCGTATCCACGCCATTGATGTAAGTCCGAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCGAAAGTCCCA

**NdeI (3971)**

3900 TAAGGTCATGTAAGTGGGATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGGTACTTGGCATATGATACACTTGTACTGCAAG

4000 TGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATATTGACGTCAATGGGCGGG

**SdaI (4149)** **PacI (4157)** **BspLU11I (4167)**

4100 GGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTG C A G G T T A A T T A G A A C A T G T G A G C A A A A G G C C A

4198 GGAACCGTAAAAAGCGCGGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCC

4298 GACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTC

**ApaLI (4481)**

4398 CCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGG

4498 TTACGCCCAGCCGCTGCGCCTTATCCGGTAACTATCGTCTTGAAGTCCAAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGAT

4598 TAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTG

4698 AAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCCGCTGGTAGCGGTGTTTTTTTTGTTTCAAGCAGCAGATTACGC

4798 GCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAG

**EagI (4917)** **NotI (4916)**

4898 TTAATTAACATTTAAATC AGCGGCCGCAATAAATATCTTTATTTTTCATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACATAACGCTCTCC

4998 ATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCGAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA