



125

**PvuI (7)**  
**SgfI (6)** MfeI (82) EcoNI (96)  
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Bsu36I (291)**  
Psp1406I (203) **HindIII (245)** EcoNI (287)  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACCGCCGCCCGCCCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441)  
NaeI (441)  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGTCTTTGTTTCGTTT

**NcoI (560)**  
**BstEII (555)**  
**KasI (535)** **AgeI (552)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTACCATGGAAGATACAAAGGAGTCTAACGTGAAGACATTTTG  
1▶ M E D T K E S N V K T F C

Psp1406I (697)  
601 CTCCAAGAATATCCTAGCCATCCTTGCTTCTCTCTATCATAGCTGTGATAGCTTTGCTTGCTGTGGGTTGACCCAGAACAAGCATTGCCAGAAAAC  
13▶ S K N I L A I L G F S S I A V I A L L A V G L T Q N K A L P E N  
701 GTTAAGTATGGGATTGTGCTGGATGCGGGTCTCTCACACAAGTTTATACATCTATAAGTGGCCAGCAGAAAAGGAGAATGACACAGGCGTGGTGCATC  
47▶ V K Y G I V L D A G S S H T S L Y I Y K W P A E K E N D T G V V H  
801 AAGTAGAAGAATGACGGGTTAAAGTCTGGAATCTCAAAATTTGTTGAGAAAGTAAATGAAATAGGCATTTACTGACTGATTGCATGGAAGAGCTAG  
80▶ Q V E E C R V K G P G I S K F V Q K V N E I G I Y L T D C M E R A R

**SphI (959)**  
901 GGAAGTGATTCCAAGTCCAGCACCAAGAGACACCCGTTTACCTGGGAGCCACGGCAGGCATGCGGTTGCTCAGGATGGAAGTGAAGATTGGCAGAC  
113▶ E V I P R S Q H Q E T P V Y L G A T A G M R L L R M E S E E L A D

**BsiBI (1098)**  
**BsaBI (1098)**  
1001 AGGGTTCTGGATGTGGTGGAGAGGAGCCTCAGCAACTACCCCTTTGACTTCCAGGGTCCAGGATCATTACTGGCCAAGAGGAAGGTGCCTATGGCTGGA  
147▶ R V L D V V E R S L S N Y P F D F Q G A R I I T G Q E E G A Y G W

NdeI (1160)  
1101 TTAATCAACTATCTGCTGGGCAAATTCAGTCAGAAAACAAGTGGTTCAGCATAGTCCCATATGAAACCAATAATCAGGAAACCTTTGGAGCTTTGGA  
180▶ I T I N Y L L G K F S Q K T R W F S I V P Y E T N N Q E T F G A L D  
1201 CCTTGGGAGCCTACACAAGTCACTTTGTACCCAAAACAGACTATCGAGTCCCGAGATAATGCTCTGCAATTTCCGCTATGGCAAGGACTAC  
213▶ L G G A S T Q V T F V P Q N Q T I E S P D N A L Q F R L Y G K D Y

**SandI (1397)**  
1301 AATGTCTACACATAGCTTCTTGCTATGGGAAGGATCAGGCACTCTGGCAGAAACTGGCCAAGGACATTGAGTTGCAAGTAATGAAATTCAGGG  
247▶ N V Y T H S F L C Y G K D Q A L W Q K L A K D I Q V A S N E I L R  
1401 ACCCATGCTTTCATCCTGGATATAAGAAGGTAGTGAACGTAAGTGACCTTTACAAGACCCCTGCACCAAGAGATTTGAGATGACTCTTCATTCCAGCA  
280▶ D P C F H P G Y K K V V N V S D L Y K T P C T K R F E M T L P F Q Q  
1501 GTTTGAAATCCAGGATTTGAAACTATCAACAATGCCATCAAAGCATCTGGAGCTCTTCAACACCAGTTACTGCCCTTACTCCAGTGTGCCCTTCAAT  
313▶ F E I Q G I G N Y Q Q C H Q S I L E L F N T S Y C P Y S Q C A F N

**XcmI (1620)**  
1601 GGGATTTTCTGCCACCCTCCAGGGGATTTTGGGGCATTTCAGCTTTTACTTTGTGATGAAGTTTTTAAACTTGACATCAGAGAAAGTCTCTCAGG  
347▶ G I F L P P L Q G D F G A F S A F Y F V M K F L N L T S E K V S Q  
1701 AAAAGGTGACTGAGATGATGAAAAAGTTCTGTGCTCAGCCTTGGGAGGAGATAAAAAATCTTACGCTGGAGTAAAGGAGAAGTACCTGAGTGAATACTG  
380▶ E K V T E M M K K F C A Q P W E E I K T S Y A G V K E K Y L S E Y C

**Asp718I (1807)**  
**Acc65I (1807)**  
1801 CTTTTCTGGTACCTACATTCTCTCCCTCCTTCTGCAAGGCTATCATTTACAGCTGATTCTGGGAGCACATCCATTTTATTGGCAAGATCCAGGGCAGC  
413▶ F S G T Y I L S L L L Q G Y H F T A D S W E H I H F I G K I Q G S

NgoMI (1903)  
NaeI (1903)  
1901 GACGCGGCTGGACTTTGGGCTACATGCTGAACCTGACCAACATGATCCAGCTGAGCAACCATTGTCCACACCTCTCTCCACTCCACCTATGTCTTCC  
447▶ D A G W T L G Y M L N L T N M I P A E Q P L S T P L S H S T Y V F  
2001 TCATGTTCTATTCTCCCTGGTCTTTTACAGTGGCCATCATAGGCTTGCTTATCTTTCACAAGCCTTCATATTTCTGGAAGATATGGTATAGCAAAA  
480▶ L M V L F S L V L F T V A I I G L L I F H K P S Y F W K D M V •

**NheI (2128)**  
2101 GCAGCTGAAATATGCTGGCTGGAGTGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCACAAGTGAATGCAGTGAATAAAA

**HpaI (2266)** MfeI (2277)  
2201 TGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAACAAACAATTGCAATTCATTTTATGTTTC

**EcoRI (2362)**  
2301 AGGTTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGAATTTCAAAAATACAGCATAGCAAAAACCTTTAACCTCCA  
2401 AATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGAGCCTCACCTTCTT  
2501 TCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAAGTACTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTATAGTA

2601 **SspI (2601)** SwaI (2615)  
AAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGT

2701 TTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGATGA  
141 • N R T Y K L P I L

2801 GTTCCTCAATGGTGGTTTTGACCAGCTTGCATTTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGG  
131 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 G C P

2901 GCTGACCACCTGATGGATCTGTCCACCTCATCAGATAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCA  
98 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 S G

**StuI (3040)**  
**Eco147I (3040)**

3001 ATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGA  
64 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 A G V

**BspHI (3190)**

3101 CATGGTGTCTGTTGCTCATAGAGCATGGTGATCTTCTCAGTGGCGACTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTTCATGATGGC  
31 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 M

**VspI (3248)**  
**AseI (3248)**

3201 CCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCAC  
3301 TAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCCTTGA

**SpeI (3403)**

3401 TTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCAGGCCATTGATGTACTGCCAA

**SnaBI (3531)**  
**Eco105I (3531)**

3500 AACCGCATCATCATGGTAATAGCGATGACTAATACGTAGTACTGCCAAGTAGGAAAGTCCATAAGGTCAATGACTGGGCATAATGCCAGGCGGGCC

**NdeI (3636)**

3600 ATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACG  
3700 TCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTTGACGTCAATGGGGCGGGTCTTGGCGGTCAGCCAGGCGGGCCATTACC

**PstI (3815)**  
**SdaI (3814)****PacI (3822)** **BspLU11I (3832)**

3800 GTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCTTCTGCGGTTTTTC  
3898 CATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTG  
3998 GAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGCTTCTCATAGCTCACG

**ApaLI (4146)**

4098 CTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCCAGCGCTGCGCCTTATCCGGTAACTAT  
4198 CGTCTTGAGTCCAACCCGGTAAGACACGACTTATGCCACTGGCAGCAGCACTGTTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGT  
4298 TCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTC  
4398 TTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATC

**EagI (4582)**  
**PacI (4562)** **SwaI (4571)** **NotI (4581)**

4498 TTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGATTTTGGTACGTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAAAT  
4598 ATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAAA  
4698 TAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA