



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

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**HindIII (245)**
**Bsu36I (291)**

**Psp1406I (203)**
**PvuII (239)**
**EcoNI (287)**

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC

301 GCCATCCACGCGGTTGAGTGCCTGTTGCGCCCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**

401 GGGCCTTTGTCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

**KasI (535)**
**AgeI (552)**
**BspHI (560)**

501 TCTGTTTGGCGGCTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTCATCATGAGCACAAACCTGATATGATTCAAAAGTGTGGT

1▶ M S T K P D M I Q K C L W

**Psp1406I (661)**

601 GCTTGAGATCCTTATGGGTATATTCATTGCTGGCACCCATCCCTGGACTGTAACCTACTGAACGTTCCACCTGAGAAGAGTCACTGGCAAAATCTGAGA

13▶ L E I L M G I F I A G T L S L D C N L L N V H L R R V T W Q N L R

701 CATCTGAGTAGTATGAGCAATTCATTTCTGTAGAATGTCTACGAGAAAACATAGCTTTTGAGTTGCCCAAGAGTTTCTGCAATACACCCAACCTATGA

47▶ H L S S M S N S F P V E C L R E N I A F E L P Q E F L Q Y T Q P M

**XmnI (813)**
**SspI (872)**

801 AGAGGGACATCAAGAAGGCTTCTATGAAATGTCCCTACAGGCCTTCAACATCTTCAGCCAACACACCTTCAAATATTGGAAAAGAGACACCTCAAACA

80▶ K R D I K K A F Y E M S L Q A F N I F S Q H T F K Y W K E R H L K Q

901 AATCAAATAGGACTTGATCAGCAAGCAGAGTACTGAACCAATGCTTGAGGAAAGACAGAATGAAAATGAAGACATGAAAGAAATGAAAGAGATGAG

113▶ I Q I G L D Q Q A E Y L N Q C L E E D E N E N E D M K E M K E N E

**PvuII (1027)**

**SmaI (1019)**
**EcoO109I (1019)**

1001 ATGAAACCCTCAGAAGCCAGGGTCCCCAGCTGAGCAGCCTGGAAGTGGAGATATTTCCACAGGATAGACAATTTCTGAAAGAAAAGAAATACAGTG

147▶ M K P S E A R V P Q L S S L E L R R Y F H R I D N F L K E K K Y S

**MscI (1192)**

**NheI (1186)**

1101 ACTGTGCCTGGGAGATTGTCGAGTGGAATCAGAAGATGTTTGTATTACTTTTACAAATTTACAGCTCTATTGAGGAGAAATAAGCTAGTGGCCAGA

180▶ D C A W E I V R V E I R R C L Y Y F Y K F T A L F R R K •

1201 CATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTGTA

**HpaI (1324)**
**MfeI (1335)**

1301 ACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCTTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAA

**EcoRI (1420)**

1401 ACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTGAACTCTTTCTGAGGGATGAATAAG

1501 GCATAGGCATCAGGGGCTTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTTAAAGATATAGTGATTTTTCCAAGGTTTGAAC

**SapI (1602)**
**SspI (1659)**
**Swal (1673)**

1601 TAGCTCTTCAATTTCTTTATGTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTGAGAAATAATTTAAATACATCATTGCAATGAAAT

**EcoO109I (1734)**

1701 AAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAA

1801 TTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAA

±+1▶ • N R T Y K L P I L E E I T T K V L K G N M E I

**SacI (1934)**
**BstXI (1963)**

1901 TGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGG

117▶ 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 E D S Y P

2001 GTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCCTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAG

84▶ 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 V R G I Y

2101 GCCTCAATGTGGACAGCAGAGATGATCTCCAGCTTGGTCTGTAGTGGCGCCCGACATGGTGTCTGTTGTCTCATAGAGCATGGTATCTTCTCAG

50▶ 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 M T I K E T

**XmnI (2240)**

2201 TGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATG

17▶ A V E V L E L D Q Q S I N F T K M

**AseI (2306)**
**SacI (2363)**

2301 CCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCT

**SpeI (2461)**

2401 ACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGG

**SnaBI (2589)**

2501 AGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGT

NdeI (2694)

2601 ACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATG

2701 ATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTC

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PacI (2880)

PstI (2873)

SdaI (2872)

BspLU11I (2890)

2801 ATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGC

2901 AAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCA

3001 AGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGTTACCG

3101 GATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGG

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ApaLI (3204)

3201 CTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGTAACATATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCA

3301 GCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACAGTAT

3401 TTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTGT

3501 TTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAA

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EagI (3640)

PacI (3620) SwaI (3629) NotI (3639)

3601 GGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATC

3701 GTAACAAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTAT

3801 CGAA