



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

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)**
**HindIII (245)** **Bsu36I (291)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC  
 301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

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**NcoI (560)**  
**BstEII (555)**  
**KasI (535)** **AgeI (552)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCCACATGGCAAATAACTACAAGAAAATTGTTCTACTGAAAGG  
 601 ATTAGAGGTCATCAATGATTATCATTTTAGAATTGTTAAGTCTTACTGAGTAACGATTTAAACTTAACTCCAAAATGAAAGAAGATGACAAAATT  
 13▶ L E V I N D Y H F R I V K S L L S N D L K L N P K M K E E Y D K I

**EcoRI (760)**

701 CAGATTGCTGACTTGATGGAGGAAAAGTCCAGGTGATGCCGTTTGGGCAAATAAGAAATCTTCAAAGAAATACCAACTGGGAGACCTTGCTG  
 47▶ Q I A D L M E E K F P G D A G L G K L I E F F K E I P T L G D L A

**SphI (886)**

801 AAACCTTAAAAGAGAAAAGTAAAAGTCAAAGGAATAATCCCATCTAAAAGACGAAACAGAAAAGAAGTGTATCCTGCTACACCTGCATGCACCCCAAG  
 80▶ E T L K R E K L K V K G I I P S K K T K Q K E V Y P A T P A C T P S  
 901 CAACCGTCTCACAGCTAAAGGAGCAGAGGAGACTCTTGGACCTCAGAAAAGAAAAAACCATCTGAAGAAGAGACTGGAACCAAAAGGAGTAAGATGTC  
 113▶ N R L T A K G A E E T L G P Q K R K K P S E E E T G T K R S K M S

**PstI (1025)**
**NcoI (1049)**

1001 AAAGAGCAGACTCGGCCCTTCTGCTCTGCAGGAGCCAGCACGTCCACAGCCATGGGCCGTTCCACCTCCCGAGACCTCATCATCAGCTCCACCCAACA  
 147▶ K E Q T R P S C S A G A S T S T A M G R S P P P Q T S S S A P P N

**MscI (1127)**
**NruI (1181)**

1101 CTTCTCAACTGAGAGCCTAAAACCATTTGGCCAACCTGACGCAACTGCCAGTAAAAATATTTTCCGAGAAGACCCAATAATCGCGATGGTACTAAATGC  
 180▶ T S S T E S L K P L A N R H A T A S K N I F R E D P I I A M V L N A  
 1201 AACAAAAGTATTTAAATATGAATCCTCAGAAAATGAGCAAAGAAGAATGTTTCATGCTACAGTGGCTACGCAGACACAGTTCTTTTCATGTGAAGTTTTA  
 213▶ T K V F K Y E S S E N E Q R R M F H A T V A T Q T Q F F H V K V L  
 1301 AACATCAACTGAAGAGGAAATTCATTAAGAGAAATCATCATTATATCAAATTTCCAAACGTAATAGTCTCCTAGAGGTGAATGAAGCCTCTTCTG  
 247▶ N I N L K R K F I K K R I I I I S N Y S K R N S L L E V N E A S S

**Psp1406I (1422)**
**SapI (1451)**

1401 TATCTGAAGCTGGTCTGACCAAACGTTTGGAGTTCCAAAGGACATCATCAGAAGAGCAAAGAAAATCCGAAGATCAATATTCTTCCAAACAAACTTC  
 280▶ V S E A G P D Q T F E V P K D I I R R A K K I P K I N I L H K Q T S  
 1501 AGGATATATTGTATATGGATTATTTATGCTACATACGAAAATGTAAATAGGAAGACGACAATCTATGAAATTCAGGATAAAACAGGAAGTATGGCTGTA  
 313▶ G Y I V Y G L F M L H T K I V N R K T T I Y E I Q D K T G S M A V

**HindIII (1645)**

1601 GTAGGAAAAGGAGAAATGCCAATATCCCTGTGAAAAAGGAGATAAGCTTCCACTCTTCTGCTTCCACTGAGAAAAGGGGAAAATATGTCAAAACTGA  
 347▶ V G K G E C H N I P C E K G D K L R L F C F R L R K R E N M S K L

**NsiI (1708)**

1701 TGTCAGAAATGCATAGTTTCATCCAGATACAGAAAATACAAACCAGAGAAGCCATGACTCCAGGAGCATGGCACTACCCAGGAACAGAGTCAGCATCC  
 380▶ M S E M H S F I Q I Q K N T N Q R S H D S R S M A L P Q E Q S Q H P  
 1801 AAAACCTTCAGAGGCCAGCACAACCTACTGAAAGCCATCTCAAGACTCCTCAGATGCCACCAACAACCCATCCAGCAGTTCTTCCACCAAGAAGGAT  
 413▶ K P S E A S T T L P E S H L K T P Q M P P T T P S S S S F T K K D  
 1901 GAAACCCACCCAGGAGCAGATCATCGCTGCAAACTTGAATACCTCACCACTGTGGCCCTCTCTTTCTTCTGACACTCCACCAACCCGATC  
 447▶ E T H P G A Q S S P A N F R I T S P T V A P P L S S D T S T N R H

**MscI (2051)**

2001 CAGCAGTTCCTTAAATAAGGTCACCAAGGACAAGGATATCAAATAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAATA  
 480▶ P A V P •

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**HpaI (2183)** **MfeI (2194)**

2101 GAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAAACAACAACAATTG

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**EcoRI (2279)**

2201 CATTCAATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAATACAGCATAG  
 2301 CAAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTT

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**SapI (2461)**

2401 TGCAGCCTCACCTCTTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGTTTGAAGTACCTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCC

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**EcoO109I (2593)**

2501 ACATTCCTTTTTAGTAAAATATTCAGAAAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCT  
 2601 TCATAATATCCCCAGTTTGTAGTTGGACTTAGGGAACAAGGAACCTTAAATAGAATTTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGT  
 141▶ • N R T

2701 GTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCT  
137 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 D S I L E  
2801 CTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGT  
103 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 F D K Q G N  
**SacI (2793)**

2901 TGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGT  
70 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 E G T K T  
**StuI (2957)**

3001 CCTGATGGCCGCCCCGACATGGTGGCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTG  
37 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 Q Q S I N  
**XmnI (3099)**

3101 AAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAG  
3 F T K M  
**BspHI (3107)** **AseI (3165)**

3201 CT TATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATT  
**SacI (3222)**

3301 TTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCC  
**SpeI (3320)**

3400 CATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGC  
**SnaBI (3448)**

3500 ATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAA  
**NdeI (3553)**

3600 TACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGCGGGGGTCTGTTGGCGGTCAGC

3700 CAGGCGGGCATTACCAGTAAGTTATGTAACGCC T G C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G C A A A A G G C C A G G A A C C G T A A A A A G G C C G  
**PstI (3732)** **SdaI (3731)** **PacI (3739)** **BspLU11I (3749)**

3798 CGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATA  
**BspLU11I (3749)**

3898 CCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCG

3998 CTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCCTGCG  
**ApaLI (4063)**

4098 CTTATCCGGTAACTATCGTCTTGAGTCAAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGT

4198 AGGCGGTGTACAGAGTCTTGAAGTGGTGGCCTAACTACGGTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGA

4298 AAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTC

4398 AAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC  
**PacI (4479)**

**EagI (4499)**  
**NotI (4498)**

4498 A G C G G C C G C A A T A A A A T A T C T T T A T T T T C A T T A C A T C T G T G T T G G T T T T T G T G T A A T C G T A A C T A A C A T A C G C T C C A T C A A A C A A A C G A A A C  
4598 A A A C A A A C T A G C A A A A T A G G C T G T C C C C A G T G C A A G T G C A G G T G C C A G A A C A T T T C T A T C G A A