



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

1 GGATCTGCATCGCTCCGGTGCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

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101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**

**Psp1406I (203)**
**PvuII (239)**
**Bsu36I (291)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC

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301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**BstEII (555)**

**AgeI (552)** **NcoI (560)**

501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATGGAGCTGCTGAAGAAGATCTCACATGCCTATTTG

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**EcoRI (690)**

601 TTGTAGTCTGTTTGTATGATCCACGGTTTTGCCTTGCTCCCAACTTCTGCAAAAAATGCTTAGAAGGTATCTTAGAAGGGAGTGTGCGGAATTCCTTG

13▶ C S L F D D P R V L P C S H N F C K K C L E G I L E G S V R N S L

**PstI (766)**

**AseI (757)** **SdaI (765)**

701 TGGAGACCAGCTCCATTCAAGTGTCTACATGCCGTAAGGAACTTCACTACTGGAATTAATAGCCTGCAGGTTAATTACTCCCTGAAGGGTATTGTGG

47▶ W R P A P F K C P T C R K E T S A T G I N S L Q V N Y S L K G I V

**BsaBI (813)**
**PvuII (892)**

801 AAAAGTATAACAAGATCAAGATCTCTCCAAAATGCCAGTATGCAAGGACACTTGGGGCAGCCTCTCAACATTTTCTGCCTGACTGATATGCAGCTGAT

80▶ E K Y N K I K I S P K M P V C K G H L G Q P L N I F C L T D M Q L I

**BspLU111 (936)**

901 TTGTGGGATCTGTGCTACTCGTGGGAGCACACAAACATGTCTTCTGTTCTATTGAAGTGCCTATGCTCAGGAAAGGGATGCCTTTGAGTCCCTCTTC

113▶ C G I C A T R G E H T K H V F C S I E D A Y A Q E R D A F E S L F

1001 CAGAGCTTTGAGACCTGGCGTCGGGAGATGCTCTTCTCGCTTGGATACCTTGGAACTAGTAAGAGGAAATCCCTACAGTTACTGACTAAAGATTACAG

147▶ Q S F E T W R R G D A L S R L D T L E T S K R K S L Q L L T K D S

1101 ATAAAGTGAAGGAATTTTTGAGAAGTTACAACACACTGGATCAAAAGAAGAATGAAATTTCTGTCTGACTTTGAGACCATGAAACTTGCTGTTATGCA

180▶ D K V K E F F E K L Q H T L D Q K K N E I L S D F E T M K L A V M Q

**NdeI (1202)**

1201 AGCATATGACCCAGAGATCAACAACTCAACACCATCTTGCGAGGACACGGATGGCCTTTAACATTGCTGAGGCTTTCAAAGATGTGTCAGAACCCATT

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

1301 GTATTTCTGCAACAGATGAGGAGTTTATAGAGAGAAAATCAAAGTAATCAAGGAACTCCTTACCTCCCTCTAATTTGCTGCAAGCCCTTTAATGAAGA

247▶ V F L Q Q M Q E F R E K I K V I K E T P L P P S N L P A S P L M K

1401 ACTTTGATACCAGTCAAGTGGGAAAGACATAAACTAGTGCATGTGGATAAACTTTCTTTGCCTCAAGACACTGGCACATTCATTAGCAAGATCCCTGGAG

280▶ N F D T S Q W E D I K L V D V D K L S L P Q D T G T F I S K I P W A S

1501 CTTTTATAAGTTATTTTGTAACTCCTTCTGCTGGCCTTGTCATTGTCTTTGGTCTACCATTGTTCTTAGAATGGTCATTATTTGATGACCTGGCACT

313▶ F Y K L F L L I L L L G L V I V F G P T M F L E W S L F D D L A T

1601 TGGAAAGGCTGTCTTTCAAACCTCAGTTCCTATCTGACTAAAACAGCCGATTCATAGAACAATCAGTTTTTACTGGGAACAGGTGACAGATGGGTTTT

347▶ W K G C L S N F S S Y L T K T A D F I E Q S V F Y W E Q V T D G F

1701 TCATTTTCAATGAAAGATTCAAGAATTTTACTTTGGTGGTACTGAACAATGTGGCAGAATTTGTGTGCAAATATAAATATTATAAATCTGTTTCAAGT

380▶ F I F N E R F K N F T L V V L N N V A E F V C K Y K L L •

**MscI (1820)**

**NheI (1814)**

1801 ATGCAGTTTTCTTTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGA

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**HpaI (1952)** **MfeI (1963)**

1901 AATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAAACAACAATTCATTATTTATGTTTCAGGTTACAGGGGAG

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**EcoRI (2048)**

2001 GTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTAC

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2101 TTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTATGGAGTTTAAAG

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**SapI (2230)**
**SspI (2287)**

2201 ATATAGTGTATTTTCCAAGGTTTGAAGTCTCTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAAT

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**SwaI (2301)**
**EcoO109I (2362)**

2301 AATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACT

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2401 TAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTG

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141 • N R T Y K L P I L E E I T

2501 GTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCCTGA  
 126 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 S V V R I  
 2601 TGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTC  
 93 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 I A I A E  
**StuI (2726)**  
 2701 AGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTG  
 60 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 H H K N  
**XmnI (2868)**  
 2801 TCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAG  
 26 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  
**AseI (2934)** **SacI (2991)**  
 2901 TCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGC  
 3001 TTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAA  
 3101 CAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATG  
**SnaBI (3217)**  
 3201 GTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTATGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGA  
**NdeI (3322)**  
 3301 CGTCAATAGGGGGCTACTTGGCATATGATACTTGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCC  
 3401 TATTGGCGTACTATGGGAACATACGTATTATTGACGTCAATGGGGCGGGTCTGTTGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACG  
**PstI (3501)**  
**SdaI (3500)** **PacI (3508)** **BspLU11I (3518)**  
 3501 CCTGCAGGTTAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCC  
 3601 TGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCGC  
 3701 TCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTT  
**ApaLI (3832)**  
 3801 CGGTGTAGGTCGTTTCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTTCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCC  
 3901 GGTAAGACACGACTTATGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCT  
 4001 AACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAGAGTTGGTAGCTCTTGATCCGGCAAACAAA  
 4101 CCACCGCTGGTAGCGGTGTTTTTTTGTGTTGCAAGCAGCAGATTACCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGA  
**EagI (4268)**  
**PacI (4248)** **SwaI (4257)** **NotI (4267)**  
 4201 CGCTCAGTGAACGAAAACCTCACGTTAAGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTCATTAC  
 4301 ATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGC  
 4401 AAGTGCAGGTGCCAGAACATTTCTATCGAA