



**PvuI (7)**  
**SgfI (6)** MfeI (82) EcoNI (96)  
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)** **Bsu36I (291)**  
**Psp1406I (203)** **PvuII (239)** EcoNI (287)  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**BstEII (555)** **NcoI (560)** **PstI (577)**  
501 TCTGTTCTGCGCGCTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATTGGTTCGTCTGCCTCTGCAGTGCCTCTGGGGCTG  
1 M V R L P L Q C V L W G C

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**PshAI (606)** **SphI (634)**  
601 CTTGCTGACCGCTGCCATCCAGAACCACCCACTGCATGCAGAGAAAAACAGTACCTAATAAACAGTCAAGTGTCTTCTTTGTGCCAGCCAGGACAGAAA  
13 L L T A V H P E P P T A C R E K Q Y L I N S Q C C S L C Q P G Q K

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**XmnI (733)** **EcoRI (757)**  
701 CTGGTGAAGTACTGCACAGAGTTCACTGAAACGGAATGCCCTTCCTTGGCGTGAAGGCGAATTCCTAGACACCTGGAACAGAGAGACACTGCCACCAGC  
47 L V S D C T E F T E T E C L P C G E S E F L D T W N R E T H C H Q

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**AvrII (819)**  
801 ACAAATACTGCGACCCCAACCTAGGGCTTCGGGTCCAGCAGAAGGGCACCTCAGAAACAGACACCATCTGCACCTGTGAAGAAGGCTGGCACTGTACGAG  
80 H K Y C D P N L G L R V Q Q K G T S E T D T I C T C E E G W H C T S

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**StuI (902)** **BsrBI (927)**  
901 TGAGGCCTGTGAGAGCTGTGTCCCTGCACCGCTCATGCTCGCCCGCTTTGGGGTCAAGCAGATTGCTACAGGGGTTTCTGATACCATCTGCGAGCCCTGC  
113 E A C E S C V L H R S C S P G F G V K Q I A T G V S D T I C E P C

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**BstBI (1033)** **Bsp119I (1033)**  
1001 CCAGTCGGCTTCTTCTCCAATGTGTCTGCTTTCGAAAAATGTCACCCCTTGACAAGCTGTGAGACCAAAGACCTGGTTGTGCAACAGGCAGGCACAA  
147 P V G F F S N V S S A F E K C H P W T S C E T K D L V V Q Q A G T

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**BsaBI (1152)** **BamHI (1169)**  
1101 ACAAGACTGATGTTGTCTGTGGTCCCCAGGATCGGCTGAGAGCCCTGGTGGTATCCCATCATCTTCGGGATCCTGTTTGCATCCTCTTGGTGTCTGGT  
180 N K T D V V C G P Q D R L R A L V V I P I I F G I L F A I L L V L V

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**MscI (1214)** **EcoO109I (1235)**  
1201 CTTTATCAAAAAGGTGGCCAAAGAAGCCAACCAATAAGGCCCCCAAGCAGGAACCCAGGAGATCAATTTTCTGACGATCTTCTGGCTCCAAC  
213 F I K K V A K K P T N K A P H P K Q E P Q E I N F P D D L P G S N

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**BstEII (1341)** **AgeI (1338)**  
1301 ACTGCTGCTCCAGTGCAGGAGACTTTACATGGATGCCAACCGTCAACCAGGAGATGGCAAAGAGAGTGCATCTCAGTGCAGGAGAGACAGTGAAGCT  
247 T A A P V Q E T L H G C Q P V T Q E D G K E S R I S V Q E R Q •

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**MscI (1414)** **NheI (1408)**  
1401 GCACCCACGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTG

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**HpaI (1546)** **MfeI (1557)**  
1501 TGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTAAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGG

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**EcoRI (1642)**  
1601 GAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAAT  
1701 CCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAG

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**SapI (1824)** **SspI (1881)** **SwaI (1895)**  
1801 TGTATTTTCCAAGGTTTGAAGTACTCTTCAATTTCTTTATGTTTAAATGCACTGACCTCCACATTCCTTTTATGATAAATATTCAGAAATAATTTA

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**EcoO109I (1956)**  
1901 AATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAAATATCCCCAGTTTAGTAGTTGGACTTAGGGA  
2001 ACAAAGGAACCTTAAATGAAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTG  
141 • N R T Y K L P I L E E I T T K

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**SacI (2156)**  
2101 ACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATC  
124 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 S R  
2201 TGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAAGCACA  
91 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 A C  
2301 GACAGTGACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCAGTCTTGGTCTGATGGCCGCCCCGACATGGTGTCTTGTGCTCTCA  
58 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 D E

BbsI (2466)  
XmnI (2462)

2401 TAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTAT  
 241 Y L M T I K E T A V E V L E L D Q S I N F T K M ←

AseI (2528) SacI (2585)

2501 TATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCTACTAAACGAGCTCTGCTTATAT  
 ←

SpeI (2683)

2601 AGACCTCCACCCTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACT  
 ←

2701 CCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATA

SnaBI (2811)

2801 GCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAA

NdeI (2916)

2901 TAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGG

PstI (3095)  
SdaI (3094)

3001 CGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCA  
 ←

PacI (3102) BspLU11I (3112)

3101 GGTAAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAGGCCGCGTTGCTGGCCTTTTCCATAGGCTCCGCCCCCTGACGA  
 ←

3201 GCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCT  
 ←

3301 GTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTACGCTGTAGGTATCTCAGTTCGGTGT

ApaLI (3426)

3401 AGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTACGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAG  
 ←

3501 ACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTAC  
 ←

3601 GGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCG  
 ←

3701 CTGGTAGCGGTGGTTTTTTTGGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCTGACGCTCA

EagI (3862)  
PacI (3842) SmaI (3851) NotI (3861)

3801 GTGGAACGAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTTCATTACATCTGT  
 ←

3901 GTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTCAAGTGC  
 4001 AGGTGCCAGAACATTTCTCTATCGAA