



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
MfeI (82) EcoNI (96)

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **HindIII (245)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCCTACCTGAGGCC  
EcoNI (287)

301 GCCATCCACGCCGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGTCTTTGTTTCGTTT

**NgoMIV (441)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTCAGCATGCCGGAGGAGGTTTCGGGCTGCTCGGTGCGGGCAG  
**AgeI (552)** **SphI (560)**  
1▶ M P E E G S G C S V R R R

601 GCCCTATGGGTGCGTCTGCGGGCTGCTTTGGTCCATTGGTGCGGGCTTGGTATCTGCCTCGTGGTGTGCATCCAGCGCTTCGACAGGCTCAGCAG  
**Eco47III (677)** **BstAPI (696)**  
13▶ P Y G C V L R A A L V P L V A G L V I C L V V C I Q R F A Q A Q Q

**XhoI (709)** **BsrBI (706)** **PstI (739)** **Bsp120I (792)**  
701 CAGCTGCCGCTCGAGTCACTTGGTGGGACGTAGCTGAGCTGCAGCTGAATCACACAGGACCTCAGCAGGACCCAGGCTATACTGGCAGGGGGGCCAG  
47▶ Q L P L E S L G W D V A E L Q L N H T G P Q Q D P R L Y W Q G G P

**BsrBI (807)** **SnaBI (848)** **MscI (896)**  
801 CACTGGGCGCTCCTTCCTGCATGGACCAGAGCTGGACAAGGGGACGTACGTATCCATCGTATGGCATCTACATGGTACACATCCAGGTGACGCTGGC  
80▶ A L G R S F L H G P E L D K G Q L R I H R D G I Y M V H I Q V T L A

**XcmI (938)**  
901 CATCTGCTCTCCACGACGGCCTCCAGGCACCCACCCTGGCCGTGGGAATCTGCTCTCCCGCTCCCGTAGCATCAGCCTGCTGCGTCTCAGC  
113▶ I C S S T T A S R H H P T T L A V G I C S P A S R S I S L L R L S

1001 TTCCACCAAGTTGTACCATTGCCTCCAGCGCCTGACGCCCTGGCCCGAGGGGACACACTGCACCAACCTCACTGGGACACTTTTGCTTCCCGAA  
147▶ F H Q G C T I A S Q R L T P L A R G D T L C T N L T G T L L P S R

**MscI (1170)**  
1101 AACTGATGAGACCTTTTGGAGTGCAGTGGGTGCGCCCTGACCACTGCTGCTGATTAGGGTGTCTAGCTGGCCAGACATGATAAGATACATTGATGAG  
180▶ N T D E T F F G V Q W V R P •

**BstAPI (1125)** **NheI (1164)**  
1201 TTTGGACAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAC

**HpaI (1302)** **MfeI (1313)** **EcoRI (1398)**  
1301 AAGTTAAACAACAACATTCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGA  
1401 ATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTG

1501 CCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACCTCTTCATTCTTTATGTT

**SspI (1637)** **SwaI (1651)**  
1601 TAAATGCACTGACCTCCACATTCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTATTAGGCAGAA  
1701 TCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCT

1801 TCTAGCTTTAGTCTCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGC  
141▶ N R T 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

**SacI (1912)**  
1901 ATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGT  
110▶ 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 H R V A V I T

**StuI (2076)**  
2001 TCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGA  
76▶ 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 A E I H V A S I

2101 TGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACAGCTCCAG  
43▶ 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 A V E V L E L

**BbsI (2222)** **XmnI (2218)** **AseI (2284)**  
2201 ATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGTGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACA  
10▶ D Q Q S I N F T K M

**SacI (2341)**  
2301 GCGTGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGG

2401 GCGGAGTTGTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCATTGACGTCAATGGGTGGAGACTTGAAATCCCGTGAGT

2501 CAAACCGCTATCCACGCCATTGATGTAAGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTACTGCCAAGTAGGAAAGTCCCA  
SnaBI (2567)

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2601 TAAGGTCATGTAAGTACTGGGCATAATGCCAGGCGGGCCATTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCAAG  
NdeI (2672)

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2701 TGGGCAGTTTACCATAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGG

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PacI (2858)  
PstI (2851)  
SdaI (2850)

2801 GGTCGTTGGGCGGTGAGCCAGGCGGGCCATTACCGTAAGTTATGTAACGCTGCAGGTTAATTAGAAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGG  
BspLU11I (2868)

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2901 AACCGTAAAAAGGCCGCTTGTGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGA

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3001 CAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCC

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ApaLI (3182)

3101 TTCGGAAGCGTGGCGTTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTT

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3201 CAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTA

---

3301 GCAGAGCGAGGTATGTAGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAA

---

3401 GCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGC

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3501 AGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTT  
PacI (3598)

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EagI (3618)  
SwaI (3607)

3601 AATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTCAT

3701 CAAAAAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAAGTGAAGTGCAGGTGCCAGAACATTTCTATCGAA