



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
**MfeI (82)**  
101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**  
**Psp1406I (203)** 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGGC  
**PvuII (239)**  
**Bsu36I (291)**  
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**BstEII (555)**  
**AgeI (552)** 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATGGATGAACAATCACAAGGAATGCAAGGGCCGCCCGT  
**NcoI (560)**  
601 TACTCAGTTCAGCCACAGAAGGCATTACGGCCAGATATGGGCTATAATACTTTAGCCAACTCCGAATAGAAAAGAAAATTGGTCGTGGACAATTTAGT  
13▶ T Q F Q P Q K A L R P D M G Y N T L A N F R I E K K I G R G Q F S  
**BbrPI (785)**  
701 GAAGTTTATAGAGCATCCTGTCTCTGGATGGAGTGCCGGTAGCGTTAAAAAAGTACAGATATTTGATTTAATGGATGCCAAAGCACGTGCTGATTGTA  
47▶ E V Y R A S C L L D G V P V A L K K V Q I F D L M D A K A R A D C  
801 TCAAAGAAATAGACCTCCTTAAGCAACTCAACCATCCAAATGTAATTAATACTATGCATCATTTCATTGAGGATAATGAGCTGAACATAGTTTTGGAGTT  
80▶ I K E I D L L K Q L N H P N V I K Y Y A S F I E D N E L N I V L E L

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**BstEII (910)** 901 AGCAGATGCTGGTACCTCTCCAGAATGATAAAGCACTTTAAGAAACAAAAGAGGCTAATCCCTGAGAGAACCCTTTGGAAATACTTCGTTACAGCTCTGC  
**XmnI (978)**  
113▶ A D A G D L S R M I K H F K K Q K R L I P E R T V W K Y F V Q L C  
**ApaLI (1001)**  
1001 AGTGCACCTGGACCACATGCATTCTGAAGAGTCATGCACAGAGATATAAAACCAGCTAATGTGTTTATTACAGCCACTGGGGTAGTAAAACCTCGGAGACC  
147▶ S A L D H M H S R R V M H R D I K P A N V F I T A T G V V K L G D

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**PvuII (1133)** 1101 TTGGGCTTGGTCCGTTTTTCAGCTCCAAAACCAGCTGCACATTCTTTAGTGGGTACACCTTACTACATGTCTCCAGAGAGAATACATGAAAATGGATA  
**BspLU11I (1166)**  
180▶ L G L G R F F S S K T T A A H S L V G T P Y Y M S P E R I H E N G Y  
1201 CAACCTCAAGTCTGACATCTGGTCTCTGGCTGTCTGTATATGAGATGGCTGACCTCAGAGTCTCTTCTACGGCGACAAGTGAACCTGTATTCTCTG  
213▶ N F K S D I W S L G C L L Y E M A A L Q S P F Y G D K M N L Y S L  
1301 TGTAAAGAAGATAGACAGTGTGACTACCCGCTCTCCCGTCAGATCACTATTCGGAGGAGCTACGACAGCTAGTTAATATGCATCAACCCAGATSCAG  
247▶ C K K I E Q C D Y P P L P S D H Y S E E L R Q L V N I C I N P D P

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**SphI (1446)** 1401 AGAAGCGACCCGACATCGCTATGTTTTATGATGTGGCAAAGAGGATGCATGCATGTACCGCAAGCACCTAAACTGTACAAGATCCTGAAGACGGCAGCTA  
**BsrGI (1473)** 280▶ E K R P D I A Y V Y D V A K R M H A C T A S T •  
**BbsI (1486)**  
**NheI (1496)**

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**MscI (1502)** 1501 GCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGC

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**HpaI (1634)** 1601 TTTATTTGTAACCATTATAAGCTGCAATAAACCAAGTTAAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAA  
**MfeI (1645)**

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**EcoRI (1730)** 1701 AGCAAGTAAAACCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTCTGAGG  
1801 GATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTATTTCCTCA

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**SapI (1912)** 1901 AGGTTTGAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTG  
**SspI (1969)**  
**SwaI (1983)**

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**EcoO109I (2044)** 2001 CAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTGTGGACTTAGGGAACAAAGAACCT  
2101 TTAATAGAAATTGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCA  
141▶ • N R T Y K L P I L E E I T T K V L K G  
**SacI (2244)**  
**BstXI (2273)**  
2201 TTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCAT  
120▶ 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 R I S R D V E D  
2301 CAGAGTAGGGGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTACGACAGACAGTGACCT  
87▶ 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 V T V R

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**StuI (2408)** 2401 GCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTGTTGCTCATAGAGCATGGT  
54▶ 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 Y L M T

BbsI (2554)  
 XmnI (2550)  
 2501 ATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCG  
 20 I K E T A V E V L E L D Q Q S I N F T K M ←

AseI (2616) SacI (2673)  
 2601 ATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACC  
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SpeI (2771)  
 2701 GTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGICAAAACAAACTCCCATTGACGTC  
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SnaBI (2899)  
 2801 AATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAAT  
 2901 ACGTAGATGTAAGTCCAGTAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTAC  
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NdeI (3004)  
 3001 TTGGCATATGATACACTTGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGG  
 ←

PacI (3190)  
 SdaI (3182)  
 3101 AACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCCTAAGTTATGTAACGCTGCAGGTTAATTAAAG  
 ←

BspLU11I (3200)  
 3201 ACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAA  
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3301 TCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCTTTCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCTG  
 3401 CCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCT  
 ←

ApaLI (3514)  
 3501 CCAAGCTGGGCTGTGTGCACGAACCCCGTTAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATC  
 3601 GCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACTACTAGA  
 3701 AGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTG  
 3801 GTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAA  
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EagI (3950)  
 PacI (3930) SwaI (3939) NotI (3949)  
 3901 CTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTT  
 4001 TGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAAC  
 4101 ATTTCTCTATCGAA