



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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)**
**Bsu36I (291)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACACGCCGCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

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**BspHI (560)**

501 TCTGTTCTGCGCGCTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCATCATGAATAGGCACCTCTGGAAGAGCCAACCTGTGTGAGAT  
1▶ M N R H L W K S Q L C E M

601 GGTGCAGCCAGTGGTGGCCCGCAGCAGATCAGGACGTAAGTCTCCTCTGGGAAAGCCAGCCATGCTGCACCTGCCTTCAGAACAGGGC  
 13▶ V Q P S G G P A A D Q D V L G E E S P L G K P A M L H L P S E Q G

**Eco47III (716)**
**Eco47III (782)**

701 GCTCCTGAGACCTCCAGCGTGCCTGGAGGAGAATCAAGAGCTCCGAGATGCCATCCGGCAGAGCAACCAGATTCTGCGGGAGCGTCCGAGGAGCTTC  
 47▶ A P E T L Q R C L E E N Q E L R D A I R Q S N Q I L R E R C E E L

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**XmnI (828)**
**XcmI (860)**

801 TGCATTTCCAAGCCAGCCAGAGGGAGGAGAAGGAGTTCCTCATGTGCAAGTTCAGGAGGCCAGGAACTGGTGGAGAGACTCGGCCTGGAGAAGCTCGA  
 80▶ L H F Q A S Q R E E K E F L M C K F Q E A R K L V E R L G L E K L D

**BstAPI (918)**
**BstXI (860)**

901 TCTGAAGAGGCAGAAGGAGCAGGCTCTGCGGGAGTGGAGCACCTGAAGAGATGCCAGCAGCAGATGGCTGAGGACAAGGCCTCTGTGAAAGCCAGGTG  
 113▶ L K R Q K E Q A L R E V E H L K R C Q Q Q M A E D K A S V K A Q V

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**XmaI (1082)**

1001 ACGTCCTTGTCTGGGAGCTGCAGGAGAGCCAGAGTGCCTTGGAGGCTGCCACTAAGGAATGCCAGGCTCTGGAGGGTCCGGCCCGGGCCGAGCGAGC  
 147▶ T S L L G E L Q E S Q S R L E A A T K E C Q A L E G R A R A A S E

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**DraIII (1144)**
**SphI (1169)**

1101 AGGC GCGCAGCTGGAGAGTGGAGCGAGGCGCTGCGAGCAGCAGCAGCTGCGAGTGGACCAGCTGCGCATGCAGGGCCAGAGCGTGGAGGCCGCGCT  
 180▶ Q A R Q L E S E R E A L Q Q Q H S V Q V D Q L R M Q G Q S V E A A L

1201 CCGCATGGAGCGCCAGGCCGCTCGGAGGAGAAGGAAAGCTGGCCAGTTGCAAGTGGCCTATCACCAGCTCTTCCAAGAATACGACAACCACATCAAG  
 213▶ R M E R Q A A S E E K R K L A Q L Q V A Y H Q L F Q E Y D N H I K

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**BsrBI (1318)**
**BglII (1344)**

1301 AGCAGCGTGGTGGCAGTGGAGCGAAGCGAGGAATGCAGCTGGAAGATCTCAAACAGCAGCTCCAGCAGGCCGAGGAGGCCCTGGTGGCCAAACAGGAGG  
 247▶ S S V V G S E R K R G M Q L E D L K Q Q L Q Q A E E A L V A K Q E

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**ClaI (1402)**
**EcoRV (1477)**

1401 TGATCGATAAGCTGAAGGAGGAGCCGAGCAGCACAAGATTGTGATGGAGACCGTCCGGTGTGTAAGGCCAGGCGGATATCTACAAGCCGACTTCCA  
 280▶ V I D K L K E E A E Q H K I V M E T V P V L K A Q A D I Y K A D F Q

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**XmaI (1514)**
**SdaI (1545)**

1501 GGCTGAGAGGCAGGCCCGGAGAAGCTGGCCGAGAAGAAGGAGCTCCTGAGGAGCAGCTGGAGCAGCTGCAGAGGGAGTACAGCAAACCTGAAGGCCAGC  
 313▶ A E R Q A R E K L A E K K E L L Q E Q L E Q L Q R E Y S K L K A S

1601 TGTGAGGAGTCCGCCAGGATCGAGGACATGAGGAAGCGGCATGTCGAGGCTCCAGGCCCTTGCCTCCGCTTGCCTACCTCTCTCTCCCTGG  
 347▶ C Q E S A R I E D M R K R H V E V S Q A P L P P A P A Y L S S P L

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**BspLU11I (1797)**

1701 CCCTGCCAGCCAGAGGAGGAGCCCCCGAGGAGCCACTGACTTCTGCTGTCCCAAGTGCCAGTATCAGGCCCTGATATGGACACCTGCAGATACA  
 380▶ A L P S Q R R S P P E E P P D F C C P K C Q Y Q A P D M D T L Q I H

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**MscI (1829)**

1801 TGTCATGGAGTGCATTGAGTAGGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCAACTAGAATGCAGTGAATAAATGCTT  
 413▶ V M E C I E •

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**HpaI (1961)** **MfeI (1972)**

1901 TATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAACAAACAATTGCATTTTATGTTTCAGGTT

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**EcoRI (2057)**

2001 CAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAAATTCATAAATACAGCATAGCAAACTTTAACCTCCAATCA  
 2101 AGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTTCATG

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**SspI (2296)**

2201 GAGTTTAAGATATAGTGTATTTTCCAAGGTTGAACTAGCTCTTCATTTCTTTATGTTTTAATGCACTGACCTCCACATTCCCTTTTAGTAAAAA

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**SwaI (2310)**

2301 TTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTGT

2401 AGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGGATGAGTTCC  
141 • N R T Y K L P I L E

2501 TCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGA  
129 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 R C M G C P S V

BstXI (2600)

2601 CCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGC  
96 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 S V A S G I A

StuI (2735)

2701 AATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCGACATGG  
63 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 R I A A G V H

BbsI (2881)

XmnI (2877)

2801 TGCTTGTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCC  
29 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 F T K M

AseI (2943)

2901 TATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAAC  
SpeI (3098)

3001 GAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTTGATTTAC  
3101 TAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGC

SnaBI (3226)

3201 ATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTCATGTACTGGCATAATGCCAGGCGGGCCATTTAC

NdeI (3331)

3301 CGTCATTGACGTCAATAGGGGGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGATTTACCGTAAATACTCCACCCATTGACGTCAATG  
3401 GAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGT

SdaI (3509) PacI (3517) BspLU11I (3527)

3501 TATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGTTGCTGGCGTTTTTCCATAGGCT  
3601 CCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGTACCAGGCGTTTCCCCTGGAAGCTCC

3701 CTCGTGGCTCTCCTGTTCCGACCTGCCGCTTACCGGATACCTGTCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGT

ApaLI (3841)

3801 ATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGA  
3901 GTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAG  
4001 TGGTGGCCTAACTACGGTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCG  
4101 GCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTAC

EagI (4277)

PacI (4257) SmaI (4266) NotI (4276)

4201 GGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTAT  
4301 TTTCATTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGT  
4401 CCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA