



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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCGGTTGAGTGCCTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**EcoNI (287)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**KasI (535)**
**AgeI (552)**

501 TCTGTTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCTCATGATGGGCTCTTGAAGCACTGTCTTTTTAGCGCGTC  
1▶ M M G S W K H C L F S A S

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**Psp1406I (656)**

601 TCTTATCTCTGCCCTGATTTTTGTATTTGTTTACAATACTGAGTTATGGGAGAATAAACGTTTTCTGAGGGCAGCTCTGTCCAATGCTTCACTGTTAGCA  
 13▶ L I S A L I F V F V Y N T E L W E N K R F L R A A L S N A S L L A

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**NsiI (749)**
**BstBI (797)**

701 GAAGCCTGTCATCAGATTTTTGAGGGGAAAGTTTTTACCAACAGAAAATGCATTGAAAACCTACCTTGATGAAGCTACCTGCTATGAGTACATGGTTC  
 47▶ E A C H Q I F E G K V F Y P T E N A L K T T L D E A T C Y E Y M V  
 801 GAAGCCACTATGTAACAGAAACTCTCTGAAGAAGAGGCTGGGTTCCCTTTAGCTTACACAGTGACCATCCACAAAGACTTCGGCACTTTTGAAGGGCT  
 80▶ R S H Y V T E T L S E E E A G F P L A Y T V T I H K D F G T F E R L

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**ApaLI (937)**

901 CTTAGGGCGATTATATGCCCCAAAATGTCTACTGTGTCACCTGGATCAGAAGGCGACGGATGCCTTTAAAGGTGCAGTGAACAGTTACTCAGCTGC  
 113▶ F R A I Y M P Q N V Y C V H L D Q K A T D A F K G A V K Q L L S C  
 1001 TTCCCAAATGCTTTTCTGGCTTCCAAGAAGGAGTCGGTTGTCTATGGGGGATCTCCAGGCTCCAGGCTGACCTGAAGTGCCTGGAAGACCTTGTGGCCT  
 147▶ F P N A F L A S K K E S V V Y G G I S R L Q A D L N C L E D L V A

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**XmnI (1165)**

1101 CTGAAGTTCCTGGAAGTATGTCATCAACACCTGCGGGCAAGACTTTCCCTGAAAACCAACAGGGAAATAGTTCAAGTATCTGAAGGGATTTAAAGGGAA  
 180▶ S E V P W K Y V I N T C G Q D F P L K T N R E I V Q Y L K G F K G K

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**BstXI (1230)**

1201 AAATATCACCCCCGGAGTGTGCCTCCTGACCCGCTGTTGGACGGACTAAATACGTCCACCAAGAAGCTGTTAAACCACAAAAATTCCTACGTGATTA  
 213▶ N I T P G V L P P D H A V G R T K Y V H Q E L L N H K N S Y V I K  
 1301 ACAACAAAATTAATAACTCCTCCTCATGACATGGTATTTACTTTGGCACGGCCTACGTGGCTCTCAAGGGACTTTGTAACCTCGCTCCTCAAG  
 247▶ T T K L K T P P P H D M V I Y F G T A Y V A L T R D F A N F V L Q  
 1401 ACCAGCTGCACCTTACTCTCTGGTCCAAGGACACTACAGSCCGGACGAACATTTCTGGGTGACACTCAACAGGATTCCCGTGTTCCTGGCTC  
 280▶ D Q L A L D L L S W S K D T Y S P D E H F W V T L N R I P G V P G S

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**NsiI (1508)**
**BsrGI (1587)**

1501 TATGCCAAATGCATCCTGGACTGGAACCTCAGAGCTATAAAGTGGAGTGACATGGAAGACAGACACGGAGGCTGCCACGGCCACTATGTACATGGTATT  
 313▶ M P N A S W T G N L R A I K W S D M E D R H G G C H G Y V H G I  
 1601 TGTATCTATGGAACGGAGACTTAAAGTGGCTGGTTAATTCACCAAGCCTGTTTGTAAACAAGTTTGAAGCTTAATACCTACCCCTTACTGTGGAATGCC  
 347▶ C I Y G N G D L K W L V N S P S L F A N K F E L N T Y P L T V E C

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**NruI (1713)**

1701 TAGAACTGAGGCATCGCGAAAGAACCTCAATCAGAGTGAAGTGCATACAACCCAGCTGGTATTTTTGAGCTATTGAGCTACTCATGACTGAAGG  
 380▶ L E L R H R E R T L N Q S E T A I Q P S W Y F •

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**PstI (1804)**
**MscI (1815)**

1801 GAAACTGCAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCAACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTT

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**HpaI (1947)**
**MfeI (1958)**

1901 GTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACCAATTGCATTATTTATGTTTCAGGTTTCAGGGGAGGTGTG

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**EcoRI (2043)**

2001 GGAGGTTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACTCCAAATCAAGCCTCTACTTGAA  
 2101 TCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATA

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**SspI (2282)**
**SwaI (2296)**

2201 GTGTATTTTCCCAAGTTTGAAGTACTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAATATTGAAATAATTT

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**EcoO109I (2357)**

2301 AAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGCGAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGACTTAGGG  
 2401 AACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTCTCGGTGACTTGGGGGATGAGTTCCTCAATGGTGGTTTT  
141▶ • N R T Y K L P I L E E I T T K

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**SacI (2557)**
**BstXI (2586)**

2501 GACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGAT  
 125▶ 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  
 2601 CTGTCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGCTTGTGACAGCAGACCAATGGCAATGGCTTACGAC  
 91▶ 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 A C

2701 AGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCCTGATGGCCGCCCGACATGGTGCTTGTGTCCTC  
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  
StuI (2721) XmnI (2863)

2801 ATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTCGTA  
25 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 (2929) SacI (2986)

2901 TTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTATATCTGACGGTTCACTAAACGAGCTCTGCTTATA  
SpeI (3084)

3001 TAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTACTAGTCAAAACAAA  
3100 CTCCCATTGACGTC AATGGGGTGGAGACTTGAAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAA  
SnaBI (3212)

3200 TAGCGATGACTAATACGTAGATGTA CTGCAAGTAGGAAAAGTCCATAAGGTCATGTA CTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTC  
NdeI (3317)

3300 AATAGGGGGCGTACTTGGCATATGATACACTTGATGTA CTGCAAGTGGGCAGTTTACCGTAAATACTCCACCATTGACGTC AATGGAAAGTCCCTATT  
PstI (3496)  
SdaI (3495)

3400 GGC GTTACTATGGGAACATACGTCATTATTGACGTC AATGGGCGGGGTCGTTGGCGGTG CAGCCAGGCGGGCCATTTACCGTAA GTTATGTAACGCTTG  
PacI (3503) BspLU11I (3513)

3500 C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G A A A A G G C C A G G A A C C G T A A A A A G G C C G G T T G C T G G C G T T T T T C C A T A G G C T C C G C C C C C T G A  
3599 C G A G C A T C A C A A A A T C G A C G C T A A G T C A G A G G T G G C G A A C C C G A C A G G A C T A T A A G A T A C C A G G C G T T T C C C C T G G A A G C T C C C T C G T G C G C T C T  
3699 C C T G T T C C G A C C C T G C C G T T A C C G G A T A C C T G T C C G C T T T C C C T T C G G G A A G C G T G G C G C T T T C T C A T A G C T C A C G C T G T A G G T A T C T C A G T T C G G  
ApaLI (3827)

3799 T G T A G G T C G T T C G C T C C A A G C T G G G C T G T G T G C A C G A A C C C C C G T T C A G C C C G A C C G C T G C G C T T A T C C G G T A A C T A T C G T C T T G A G T C C A A C C C G G T  
3899 A A G A C A C G A C T T A T C G C C A C T G G C A G C A G C C A C T G G T A A C A G G A T T A G C A G A G C G A G G T A T G T A G G C G G T G C T A C A G A G T T C T T G A A G T G G T G G C C T A A C  
3999 T A C G G C T A C A C T A G A A G A A C A G T A T T T G G T A T C T G C G C T C T G T G A A G C C A G T T A C C T T C G G A A A A A G A G T T G G T A G C T T T G A T C C G G C A A A C A A C C A  
4099 C C G C T G G T A G C G G T G G T T T T T T G T T T G C A A G C A G C A G A T T A C G C G C A G A A A A A A A G G A T C T C A A G A A G A T C C T T T G A T C T T T T C T A C G G G G T C T G A C G C  
EagI (4263)  
PacI (4243) SwaI (4252) NotI (4262)

4199 T C A G T G G A A C G A A A A C T C A C G T T A A G G G A T T T T G G T C A T G G C T A G T T A A T T A A C A T T T A A A T C A G C G G C C G C A A T A A A A T A T C T T T A T T T T C A T T A C A T C  
4299 T G T G T G T G G T T T T T T G T G T G A A T C G T A A C T A A C A T A C G C T C T C C A T C A A A A C A A A A C G A A A C A A A A C A A A C T A G C A A A A T A G G C T G T C C C C A G T G C A A G  
4399 T G C A G G T G C C A G A A C A T T T C T C T A T C G A A