



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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**
**Bsu36I (291)**

**Psp1406I (203)**
**PvuII (239)**
**Bsu36I (291)**

201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGGCC  
301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**KasI (535)**
**AgeI (552)**
**NcoI (560)**
**BstEII (555)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTACCATTGGCTAGGCTCTGTGCTTCTGATGGTCTGGCGGT  
1 M A R L C A F L M V L A V

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**MscI (610)**
**Bsu36I (654)**

601 GCTGAGCTACTGGCCAACCTGCTCTTAGGATGTGACCTTCTCAGACTCATAACCTCAGGAACAAGAGACCTTAACCTCCTGGTAAAAATGAGGAGA  
13▶ L S Y W P T C S L G C D L P Q T H N L R N K R A L T L L V K M R R  
701 CTCTCCCCTCTCTCTGCTGAAGGACAGAAAGACTTTGGATTCCCACAGGAGAAGTGGGTGCCACAGATCCAGGAGGCTCAAGCCATCCCTGTCC  
47▶ L S P L S C L K D R K D F G F P Q E K V G A Q Q I Q E A Q A I P V

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**EcoO109I (818)**
**BstAPI (856)**

801 TGAGTGAGCTGACCCAGCAGGTCTGAACATCTTACATCAAAGGACTCATCTGCTGCATGGAATGCAACCTCCTAGACTCATTCTGCAATGAAGTCCA  
80▶ L S E L T Q Q V L N I F T S K D S S A A W N A T L L D S F C N E V H  
901 TCAGCAGCTCAATGACCTCAAAGCTGTGTGATGCAACAGGTGGGGTGCAGGAATCTCCCCTGACCCAGGAAGACTCCCTGTGGCTGTGAGGAAATC  
113▶ Q Q L N D L K A C V M Q Q V G V Q E S P L T Q E D S L L A V R K Y

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**HpaI (1096)**

1001 TTCCACAGGATCACTGTGTACCTGAGAGAGAAGAAACACAGCCCTGTGCTGGGAGGTGGTCAGAGCAGAAGTCTGGAGAGCCCTGTCTTCTCAGTTA  
147▶ F H R I T V Y L R E K K H S P C A W E V V R A E V W R A L S S S V

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**NheI (1150)**
**MscI (1156)**

1101 ACTTGCTGGCAAGATTGAGCAAGGAGGAGTGAGTCTGAGCCAAAGTGTAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCAC  
180▶ N L L A R L S K E E •

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**HpaI (1288)**
**MfeI (1299)**

1201 AACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAAC

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**EcoRI (1384)**

1301 AATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTCAAATAACAG  
1401 CATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAG  
1501 CTGTTTGACGCTCACCTCTTTTATGAGTAAAGATATAGTATTTTCCCAAGGTTTGAAGTCTTTCATTTCTTTATGTTTTAAATGCAGTGC

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**SspI (1623)**
**SwaI (1637)**
**EcoO109I**

1601 CTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTATTAGGCAGAATCCAGATGCTCAAG  
1701 GCCCTTCATAATATCCCGAGTTTGTAGTGTGACTTAGGGAACAAGGAACCTTAAATGAAATTTGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTC  
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**SacI (1898)**

1801 CTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGA  
138▶ 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 Y D S I L

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**BstXI (1927)**

1901 GCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTG  
105▶ 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 D F D K Q

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**StuI (2062)**

2001 CCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGATC  
72▶ 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 I E G T  
2101 TTGGTCTGATGGCCGCCCGACATGGTCTTGTCTCATAGAGCATGGTATCTTCTCAGTGGGACCTCCACAGCTCCAGATCCCTGTGAGAGA  
38▶ K T R I A A G V 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

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**BspHI (2212)**
**AseI (2270)**

2201 TGTTGAAGGCTTTCATGATGGCCCTCTATAGTGAAGTCTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTC  
5▶ N F T K M

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**SacI (2327)**

2301 TCCAGCTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACTCCACCGTACACGCTACCGCCATTGCGTCAATGGGGCGGAGTTGTTACG

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**SpeI (2425)**

2401 ACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAACAACACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCGTGAAGTCAAACCGCTATCCA

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**SnaBI (2553)**

2501 CGCCATTGATGTAAGTCCAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCCAAGGTCATGTAAGT

**NdeI (2658)**

2601 GGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCG

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2701 TAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTACTGGGAACATACGTCAATTATTGACGTCAATGGCGGGGGTCTGGTGGCGGT

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PacI (2844)

**PstI (2837)**

**SdaI (2836)**

**BspLU11I (2854)**

2801 CAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAA**TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGC**

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2901 CGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGA

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3001 TACCAGGCGTTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCGGACCTGCCGCTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGG

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**ApaLI (3168)**

3101 CGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTTCAGCCCAGCCGCTG

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3201 CGCCTTATCCGGTAACTATCGTCTTGAAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTAT

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3301 GTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCG

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3401 GAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGGCGAGAAAAAAGGATC

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PacI (3584) SwaI (3593)

3501 TCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAA

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**EagI (3604)**

**NotI (3603)**

3601 TCAGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAA

3701 ACAAACAAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA