



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
**MfeI (82)**

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101 GAGAAGGTGGCGCGGGGTAAACTGGGAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)**
**HindIII (245)**
**Bsu36I (291)**  
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCCGCCGCCTACCTGAGGGCC

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301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCGCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**NsiI (562)**  
**AgeI (552)**
**SphI (560)**  
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCAGCATGCATGCAGTAACAATGTGGAGAAAGACATTACCC

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601 ATCTGAATTGCCTGCAAAGCCAGGTTGTCTGCATTCAAAGAGCATTCTATTAAGCTACCTTAATTTGGCGTTATTTTTCTTAATCATGTTTCTGACA  
 13▶ S E L P A K P G C L H S K E H S I K A T L I W R L F F L I M F L T

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**BbsI (770)**
**SphI (781)**  
 701 ATCATAGTGTGTGAATGGTTGCTGCTTAAAGTGAATAAGAGCTAACTGCCATCAAGAGCCATCAGTATGTCTTCAAGTGCATGCCAGAAAGCTGGA  
 47▶ I I V C G M V A A L S A I R A N C H Q E P S V C L Q A A C P E S W

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**BsaBI (880)**  
 801 TTGGTTTTCAAAGAAAGTGTCTATTTTTCTGATGACACCAAGAAGTGGACATCAAGTCAGAGGTTTTGTGACTCACAAGATGCTGATCTTGCTCAGGT  
 80▶ I G F Q R K C F Y F S D D T K N W T S S Q R F C D S Q D A D L A Q V

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**HindIII (903)**
**XcmI (943)**
**NcoI (985)**  
 901 TGAAAGCTTCCAGGAAGTGAATTTCTGTTGAGATATAAAGGCCATCTGATCACTGGATTGGGCTGAGCAGAGAACAAGGCCAACCATGGAATGGATA  
 113▶ E S F Q E L N F L L R Y K G P S D H W I G L S R E Q G Q P W K W I

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**BspHI (1028)**  
 1001 AATGGTACTGAATGGACAAGACAGTTAGTCATGAAAGAAGATGGTGCCAACTGTATGTTGCAAAGTTTCAAGTCTCGAATGAATCCAAGACCTG  
 147▶ N G T E W T R Q L V M K E D G A N L Y V A K V S Q V P R M N P R P

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1101 TCATGTTTCTATCCTGGGAGCAGGAGAGTGTGCCTATTTGAATGACAAAGTGCCAGTAGTGCCAGGCACTACACAGAGAGGAAGTGGATTGTTCCA  
 180▶ V M V S Y P G S R R V C L F E •

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**XbaI (1215)**
**MscI (1244)**  
**BspLU11I (1210)**
**NheI (1238)**  
 1201 AATCAGATATACATGTCTAGATGTTACAGCAAAGCCCCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCA

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**HpaI (1376)**
**MfeI (1387)**  
 1301 GTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAAACAACATTCATTCA

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**EcoRI (1472)**  
 1401 TTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACT  
 1501 TTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTCAGCC

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**SapI (1654)**  
 1601 TCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTCCCAAGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCC

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**SspI (1711)**
**SwaI (1725)**
**EcoO109I (1786)**  
 1701 CTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAAT

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1801 ATCCCCAGTTTAGTAGTTGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTG  
141▶ • N R T Y K

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**SacI (1986)**  
 1901 AGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCGACA  
 134▶ 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 E R C M

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2001 TGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCAC  
 101▶ 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 G N S V

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**StuI (2150)**  
 2101 AGCAGACCAATGGCAATGGCTTCCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATG  
 68▶ 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 K T R I

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**BbsI (2296)**  
**XmnI (2292)**  
 2201 GCCGCCCCGACATGGTGTGTTGTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGGCTC  
 34▶ 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 D Q Q S I N F T K

2301 TCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCT  
1 M ← AseI (2358)

2401 GACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAA  
SacI (2415)

2501 GTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGTGGAGACTTGAAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATG  
SpeI (2513)

2601 TACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAAGTCCATAAGGTCATGTACTGGGCATAATGCC  
SnaBI (2641)

2701 AGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCAC  
NdeI (2746)

2801 CCATTGACGTCAATGAAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGG  
PacI (2932)

2901 CCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGC  
PstI (2925) SdaI (2924) BspLU11I (2942)

3001 GTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATAACCAGGCGTTT  
3101 CCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATA  
ApaLI (3256)

3201 GCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTGAGCCGACCGCTGCGCCTTATCCGG  
3301 TAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCT  
3401 ACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTG  
3501 GTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGGCAGAAAAAAGGATCTCAAGAAGATCC  
EagI (3692)

3601 TTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCA  
PacI (3672) SmaI (3681) NotI (3691)

3701 ATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAAACAAACGAAAACAAACAACT  
3801 AGCAAAATAGGCTGTCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA