



**PvuI (7)**  
**SgfI (6)**  
 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA  
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**  
**Psp1406I (203)** **PvuII (239)** **Bsu36I (291)**  
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCGCCGCCCTACCTGAGGGCC  
 301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC  
 401 GGGCCTTTGTCCGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**AgeI (552)** **BspHI (560)**  
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTATCATGAACCGGGGAGTCCCTTTTAGGCACTTGCTTCTGGT  
 1▶ M N R G V P F R H L L L V

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**BsrGI (682)** **SapI (699)**  
 601 GCTGCAACTGGCGCTCCTCCAGCAGCCACTCAGGAAAGAAAGTGGTGTGGGCAAAAAGGGGATACAGTGAAGTACCTGTACAGCTTCCAGAAG  
 13▶ L Q L A L L P A A T Q G K K V V L G K K G D T V E L T C T A S Q K  
 701 AAGAGCATACAATTCCACTGGAAAACTCCAACAGATAAAGATTCTGGGAAATCAGGGCTCCTTCTTAATAAGTCCATCCAAGCTGAATGATCGCG  
 47▶ K S I Q F H W K N S N Q I K I L G N Q G S F L T K G P S K L N D R  
 801 CTGACTCAAGAAGAAGCCTTTGGGACCAAGGAACTTTCCCTGATCATCAAGAATCTTAAGTAGAAGACTCAGATACTTACATCTGTGAAGTGGAGGA  
 80▶ A D S R R S L W D Q G N F P L I I K N L K I E D S D T Y I C E V E D  
 901 CCAGAAGGAGGAGGTGCAATTGCTAGTGTTCGGATTGACTGCCAACTCTGACACCCACCTGCTTCAGGGGAGAGCCTGACCCTGACCTTGGAGAGCCCC  
 113▶ Q K E E V Q L L V F G L T A N S D T H L L Q G Q S L T L T L E S P

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**PvuII (1078)** **BstXI (1089)**  
 1001 CCTGGTAGAGCCCTCAGTGAATGTAGGAGTCCAAGGGTAAAAACATACAGGGGGGAAGACCCTCTCCGTGTCTCAGCTGGAGCTCCAGGATAGTG  
 147▶ P G S S P S V Q C R S P R G K N I Q G G K T L S V S Q L E L Q D S

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**NheI (1164)**  
 1101 GCACCTGGACATGCACTGTCTTGCAGAACCAGAAGAAGTGGAGTTCAAAATAGACATCGTGGTGTCTAGCTTTCCAGAAGGCCTCCAGCATAGTCTATAA  
 180▶ G T W T C T V L Q N Q K K V E F K I D I V V L A F Q K A S S I V Y K  
 1201 GAAAGAGGGGGAACAGGTGGAGTTCCTTCCACTCGCCTTTACAGTTGAAAAGCTGACGGGAGTGGCGAGCTGTGGTGGCAGGCGGAGAGGGCTTCC  
 213▶ K E G E Q V E F S F P L A F T V E K L T G S G E L W W Q A E R A S

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**BstEII (1356)** **BsrBI (1396)**  
 1301 TCCTCAAGTCTTGGATCACCTTTGACCTGAAGAACAAGGAAGTGTCTGTA AACCGGTTACCCAGGACCCTAAGCTCCAGATGGGCAAGAAGCTCCCGC  
 247▶ S S K S W I T F D L K N K E V S V K R V T Q D P K L Q M G K K L P  
 1401 TCCACCTCACCTGCCAGGCTTGCCTCAGTATGCTGGCTCTGAAACCTCACCTGCGCCTTGAAGCGAAAACAGGAAAGTTGCATCAGGAAGTGAA  
 280▶ L H L T L P Q A L P Q Y A G S G N L T L A L E A K T G K L H Q E V N

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**SandI (1554)**  
 1501 CCTGGTGGTATGAGAGCCACTCAGCTCCAGAAAAATTTGACCTGTGAGGTGTGGGGACCCACCTCCCTAAGCTGATGCTGAGCTTAAAAGTGGAGAAC  
 313▶ L V V M R A T Q L Q K N L T C E V W G P T S P K L M L S L K L E N

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**Bsu36I (1648)** **BstAPI (1665)**  
 1601 AAGGAGGCAAAGGTCTCGAAGCGGGGAGAAGCGGTGTGGGTGCTGAACCTGAGGCGGGGATGTGGCAGTGTCTGCTGAGTGACTCGGGACAGGTCTCTGC  
 347▶ K E A K V S K R E K A V W V L N P E A G M W Q C L L S D S G Q V L  
 1701 TGGAAATCCAACATCAAGTCTGCCACATGGTCCACCCCGGTGCAGCAATGGCCCTGATTGTGCTGGGGGCGTCGCCGCCCTCTGCTTTTCATTGG  
 380▶ L E S N I K V L P T W S T P V Q P M A L I V L G G V A G L L L F I G

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**BsrBI (1849)**  
 1801 GCTAGGCATCTTCTGTGTGTCAGGTGCCGGCACCGAAGGCGCAAGCAGAGCGGATGTCTCAGATCAAGAGACTCCTCAGTGAAGAAGACCTGCCAG  
 413▶ L G I F F C V R C R H R R R Q A E R M S Q I K R L L S E K K T C Q

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**AgeI (1907)** **BspLU11I (1921)** **EcoRI (1972)** **MscI (1984)**  
 1901 TGTCTCACCGGTTTCAGAAGACATGTAGCCCCATTTGAGGCACGAGGCCAGGCAGATCCCCTTGCAGCCTGAATTCGCTAGCTGGCCAGACATGATAA  
 447▶ C P H R F Q K T C S P I •

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**HpaI (2116)**  
 2001 GATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTAT

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**EcoRI (2212)**  
 2101 AAGCTGCAATAAACAAGTTAAACAACAACATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTAC  
 2201 AAATGTGGTATGGAATTTAAAATACAGCATAGCAAACTTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGC

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**SapI (2394)**  
 2301 ATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCAAGGTTTGAAGTACTGCTCTT

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**SspI (2451)** **SwaI (2465)**  
 2401 CATTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTGTAGTAAAATTCAGAAAATTTAAATACATCATTGCAATGAAAATAAATGTTT  
 2501 TTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAAATGGACAG  
 2601 CAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCACTCAATGAGCACA  
 141▶ • N R T Y K L P I L E E I T T K V L K G N M E I L V

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**BstXI (2755)**  
 2701 AAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGA  
 114▶ F C D P A Y D S I L E R C M G C P S V V R I S R D V E D S Y P H R V

2801 CAGCCACAATGGTGTCAAAGTCCTTCTGCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAAT  
81 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 G I Y A E I  
2901 GTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACC  
48 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 I K E T A V

**XmnI (3032)** **AseI (3098)**

3001 TCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGAT  
14 E V L E L D Q Q S I N F T K M

3101 TAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCCA

**SpeI (3253)**

3201 TTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGG

**SnaBI (3381)**

3301 AAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA

**NdeI (3486)**

3401 GTAGGAAAGTCCCATAAGGTCATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA

3501 GATGTAAGTCCATAAGGTCATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA

**Pacl (3672)**  
**PstI (3665)**  
**SdaI (3664)** **BspLU11I (3682)**

3601 CGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCC  
3701 AGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGGCTGGCGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAG  
3801 GTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCCGACCTGCCGTTACCGGATACCTG

**ApaLI (3996)**

3901 TCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTCCGCTCCAAGCTGGGCTGTGTGC  
4001 ACGAACCCCCGTTCCAGCCGACCGTGCCTTATCCGGTAACTATCGTCTTGGTCCAAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCAC  
4101 TGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATC  
4201 TGGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTATCCGGCAAAACAAACACCGCTGGTAGCGGTGTTTTTTGTTTGAAGC  
4301 AGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTTT

**EagI (4432)**  
**Pacl (4412)** **Swal (4421)** **NotI (4431)**

4401 GGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAA  
4501 CATACGCTCTCCATCAAACAAACGAAACAAACAAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA