



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
**MfeI (82)**  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**  
**Psp1406I (203)** 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCGCTACCTGAGGCC  
**PvuII (239)**  
**Bsu36I (291)** 301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**KasI (535)** 501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATTGGAGCCATGGCCTCTTACGTTCTGCTGTTGCTGCT  
**BstEII (555)**  
**AgeI (552)** 1▶ M E P W P L T F L L L L L

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**BsrGI (650)** 601 GCTGCTGCTGTGGCTACAGGGCTGTGTCTCAGGTCACCTCAATGAGAACCTGTACAGGAAAGTGTGGCGCGTGAAGGCGAGACCCTGTCTGTGCAGTGC  
**Tth111I (681)**  
13▶ L L L W L Q G C V S G H S N E N L Y R K V W R R E G E T L S V Q C

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**SmaI (795)** 701 TCCTACAAGAACC GCCGAACTTAGTTGAGGCCAAGTCTTGGTGCAAAGTCAAGAAGAAGAAGTGCACCACAACCTCACCCGGAGCTGGGTGAGGGGTC  
47▶ S Y K N R R N L V E A K S W C K V K K K C D H N F T R S W V R G

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**BspEI (874)** 801 CCAGTACTCTCTGCGGGATGATGCCAAGGTCAAGGTAGTCCGTATCACCATGGAAGCTCTCAGAGTTCAGGACTCCGGACGATACTGGTGTATGCGTAA  
80▶ P S Y S L R D D A K V K V V R I T M E A L R V Q D S G R Y W C M R N

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**Psp1406I (970)** 901 CACGGCTGGGCATTTCTACCCTTTGGTGGGTTTCCAACCTGGAAGTGTATCCAGCCCTCACAACCTGAGAGAAACGTTCCCCACACACATCTTACCAACACC  
**XcmI (992)**  
113▶ T A G H F Y P L V G F Q L E V Y P A L T T E R N V P H T H L T N T

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1001 CCCATGGATGATTTGTCACGACCGCCAAGTCCATATTTAGACCCCTCAGCTCCTTTACATCTGACGTGACTATGTTACATCTGAAGTACCGTGT  
147▶ P M D G F V T T G Q V H I S D P H A P F T S D V T M F T S E V T V

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1101 TCACATCTGGACTCCTCACCTTGGCTTCAGGGACCACCAACCCCTGTGACAGGCTACAGTTTCAACGATACCAGTGGCACCGTTACAGAGCCTGA  
180▶ F T S G L L T L A S G T T T P T P V T G Y S F T D T S G T V T E P E

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1201 GAGAAACACAGAGTCCAGCCCGAACCTGTCTCCTAGCAATGCAAGATCCTTCTGCTGATCCAGTACCACCTCCACCATGTCCAGACACCAGAGT  
213▶ R N T E S Q P A T L S P S N A R S F S A D P V T T S T M S R H Q S

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**HpaI (1332)** 1301 AGCAGCTTGCCACCACGGGACGTGCCACCCGTTAACTCCCAACAGGTCAGGAAACTTACATCCCTGCGATGGTGGTGGTGTGACATTTCTCCAG  
247▶ S S L S T T G T C H P L T P N R S Q E T Y I P A M V V V L T F L P

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**NdeI (1444)** 1401 CACCTGTGGTGGTGTGCTGAGCTACCGGTTTTGGAAGAAGAGACATATGGGAAGATACAACCTGGGCAGCAACTATGCTAAACCTGGATACACCTCC  
280▶ A P V V L V V A Y G F W K K R H M G R Y N L G S N Y A K P W I H L P

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**MscI (1563)** 1501 TGAAGGACCAGAGACACCGTGAAGCCTGTTGGTCTAAGATAACTCAGTGAGCTGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGGAC  
313▶ E G P E T P W K P A W S K I T Q •

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**XcmI (1507)** 1601 AAACCACAAC TAGAATGCAGTGA AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAA  
**HpaI (1695)**

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**MfeI (1706)** 1701 CAACAACAATTGCATTCATTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATCTAA  
**EcoRI (1791)**  
1801 AATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGT

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**SapI (1973)** 1901 GCATTAGCTGTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGTTTGAAGTACTCTTCATTTCTTTATGTTTTAAATG

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**SspI (2030)** 2001 CACTGACCTCCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTATTAGGCAGAATCCAGAT  
**SwaI (2044)**  
2101 GCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGACTTAGGGAACAAAGAACCTTTAATAGAATTGGACAGCAAGAAAGCGAGCTTCTAGCT

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2201 TTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCA  
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 F C D P A Y D

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**SacI (2305)** 2301 GAGATGAGCTCTGCACATGCCACAGGGGCTGACCCTGTGGATGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGT  
107▶ 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 A V I T D F D

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**StuI (2469)** 2401 CCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCCTCAATGTGGACAGCAGAGATGATCTC  
74▶ 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 H V A S I E

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2501 CCCAGTCTTGGTCTGATGGCCGCCGACATGGTGCTTGTGCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTCG  
41▶ 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 E V L E L D Q

**BbsI (2615)**  
**XmnI (2611)** **AseI (2677)**  
 2601 TGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGA  
 74 Q S I N F T K M

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**SacI (2734)**  
 2701 TGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCTACCGCCATTGCGTCAATGGGGCGGAGT

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**SpeI (2832)**  
 2801 TGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCG

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**SnaBI (2960)**  
 2901 CTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTC

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**NdeI (3065)**  
 3001 ATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAG  
 3101 TTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGGTCGTT

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**PacI (3251)**  
**PstI (3244)**  
**SdaI (3243)** **BspLU11I (3261)**  
 3201 GGGCGTCAAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGAAAAGGCCAGGAACCGTA  
 3301 AAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCAGAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT  
 3401 ATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGA

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**ApaLI (3575)**  
 3501 AGCGTGGCGCTTTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTAGCCCG  
 3601 ACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGC  
 3701 GAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTT  
 3801 ACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACACCCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAA

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**PacI (3991)**  
 3901 AAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAAC

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**EagI (4011)**  
**SwaI (4000)** **NotI (4010)**  
 4001 ATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACA  
 4101 AAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA