



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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCGCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**AgeI (552)** **SphI (568)** **FspI (586)**

501 TCTGTTTGTCCGCGGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTAGGAGGGCCAGCATGCCATCACTCGGATGCGCATGAGACCC  
1▶ M P I T R M R M R P  
SphI (686)

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**XmaI (632)**
**NcoI (678)**

601 TGGCTAGAGATGCAGATTAATTCACAAATCCCGGGGCTCATCTGGATTAATAAGAGGAGATGATCTTCCAGATGCCATGGAAGCATGCTGCCAAGC  
 11▶ W L E M Q I N S N Q I P G L I W I N K E E M I F Q I P W K H A A K

**BspEI (733)**

701 ATGGCTGGGACATCAACAAGGATGCCTGTTTGTCCGGAGCTGGGCCATTACACAGGCCGATACAAAGCAGGGGAAAAGGAGCCAGATCCCAAGACGTG  
 44▶ H G W D I N K D A C L F R S W A I H T G R Y K A G E K E P D P K T W

**EcoRV (837)** **PvuII (880)**

801 GAAGGCCAACTTTCGCTGTGCCATGAATCCCTGCCAGATATCGAGGAGGTGAAAGACCAGAGCAGGAACAAGGGCAGCTCAGCTGTGCGAGTGACCGG  
 77▶ K A N F R C A M N S L P D I E E V K D Q S R N K G S S A V R V Y R  
 901 ATGCTCCACCTCTACCAAGAACCAGAGAAAAGAAAGAAAGTGAAGTCCAGCCGAGATGCTAAGAGCAAGGCCAAGAGGAAAGTGTGGGGATTCCA  
 111▶ M L P P L T K N Q R K E R K S K S S R D A K S K A K R K S C G D S

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EcoO109I

1001 GCCCTGATACCTTCTCTGATGGACTCAGCAGCTCCACTCTGCCTGATGACCACAGCAGCTACACAGTTCCAGGCTACATGCAGGACTTGGAGGTGGAGCA  
 144▶ S P D T F S D G L S S S T L P D D H S S Y T V P G Y M Q D L E V E Q

**BsrGI (1195)**

1101 GGCCCTGACTCCAGCACTGTCGCATGTGCTGTGAGCAGCACTCTCCCGACTGGCACATCCAGTGGAAAGTTGTGCCGACAGCACCAGTGTCTGTAC  
 177▶ A L T P A L S P C A V S S T L P D W H I P V E V V P D S T S D L Y

**Bsu36I (1269)** **BspHI (1279)**

1201 AACTTCCAGGTGTACCCATGCCCTCCACCTCTGAAGCTACAACAGATGAGGATGAGGAAGGGAAATTACCTGAGGACATCATGAAGCTCTTGGAGCAGT  
 211▶ N F Q V S P M P S T S E A T T D E D E E G K L P E D I M K L L E Q

**Acc65I (1333)**

1301 CGGAGTGGCAGCCAAACAACGTGGATGGGAAGGGTACCTACTCAATGAACCTGGAGTCCAGCCACCTCTGTCTATGGAGACTTTAGCTGTAAGGAGGA  
 244▶ S E W Q P T N V D G K G Y L L N E P G V Q P T S V Y G D F S C K E E

**BbsI (1449)** **BglIII (1457)** **BstXI (1477)** **PshAI**

1401 GCCAGAAATTGACAGCCAGGGGGGATATTGGCTGAGTCTACAGCTGTCTTACAGATCTGAAGAACATGGATGCCACCTGGCAGACCTGTGCTG  
 277▶ P E I D S P G G D I G L S L Q R V F T D L K N M D A T W L D S L L

**MscI (1557)**

1501 ACCCCAGTCCGGTTCGCCCTCCATCCAGGCCATTCCCTGTGCACCGTAGCAGGCTAGCTGGCCAGACATGATAAGATCATTGATGAGTTTGGACAAACCA  
 311▶ T P V R L P S I Q A I P C A P •

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**HpaI (1689)**

1601 CAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACA

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**MfeI (1700)**
**EcoRI (1785)**

1701 CAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACA  
1▶ 1▶

1801 GCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTA

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**SapI (1967)**

1901 GCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTTGAAGTCTCTTCTTTTATGTTTAAATGCACTGA

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**SspI (2024)** **Swal (2038)**
EcoO109

2001 CCTCCACATTCCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAA

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2101 GGCCCTTCATAATATCCCCAGTTTGTAGTGGACTTAGGGAACAAAGAACCTTTAATAGAATTGGACAGCAAGAAGCGAGCTTCTAGCTTTAGTT  
1▶ 1▶ • N

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SacI (2299)

2201 CCTGGTGTACTTGAGGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATG  
 139▶ 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

**BstXI (2328)**

2301 AGCTCTGACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCT  
 105▶ 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 K Q

**StuI (2463)**

2401 GCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGT  
 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

2501 CTTGGTCCTGATGGCCGCCCGACATGGTCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGTGAGAG  
 391 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 Q S

BbsI (2609)  
 XmnI (2605)

2601 ATGTTGAAGGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGT  
 51 I N F T K M

SacI (2728)

2701 CTCCAGCITATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTAC

SpeI (2826)

2801 GACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAAATCCCGTGAGTCAAACCGCTATCC

SnaBI (2954)

2901 ACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAC

NdeI (3059)

3001 TGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACC

3101 GTAAATACTCCACCCATTGACGTCAATGAAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGGGGGGTCTGTGGGCGG

PacI (3245)  
 PstI (3238)  
 SdaI (3237) BspLU11I (3255)

3201 TCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAAATAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGG  
 3301 CCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAG  
 3401 ATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTG

ApaLI (3569)

3501 GCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTAGCCGACCGCT  
 3601 GCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTA  
 3701 TGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTC  
 3801 GGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGGTGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGAT

PacI (3985) SwaI (3994)

3901 CTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAA

EagI (4005)  
 NotI (4004)

4001 ATCAGCGGCCGAATAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTTGTGTAATCGTAACATAACGCTCTCCATCAAAACAAAACGA  
 4101 AACAAAACAAACTAGCAAAATAGGCTGTCCCGAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA