



100

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

1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA  
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

**Psp1406I (203)**
**PvuII (239)**
**EcoNI (287)**

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC  
 301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCCTGAACTGCGTCCGCGCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMI (441)**  
**NaeI (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

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**KasI (535)**
**AgeI (552)**
**SphI (560)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTA CCTGAGATCACCGGTGAGCATGCACGAGGAAGAAATATACACCTCTCTTCAGTGGGA  
1▶ M H E E E I Y T S L Q W D

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**SphI (655)**

601 TAGCCAGCACCAGACACTTACCAGAAATGTCTGTCTTCCAACAAATGTTCCAGGAGCATGCTGTCTTGTGATGGTGATTTTCATGTGTTTTCTGCATGGGA  
 13▶ S P A P D T Y Q K C L S S N K C S G A C C L V M V I S C V F C M G  
 701 TTATTAACGGCATCCATTTCTTGGCGTCAAGTTGTTGAGGTTGCCACCTTGCAGTGCAGCAGCAAGAAAACTCATCCAACAAGAGAGGGCACTGC  
 47▶ L L T A S I F L G V K L L Q V S T I A M Q Q Q E K L I Q Q E R A L

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**SspI (842)**

801 TAACTTTACAGAATGGAAGAGAAGCTGTGCCCTTCAGATGAAATATTGCCAAGCCTTCATGCAAACTCATTAAAGTTCAGCCATAACAGCAGTCTTTG  
 80▶ L N F T E W K R S C A L Q M K Y C Q A F M Q N S L S S A H N S S P C  
 901 TCCAACAATTGGATTGAGAACAGAGAAAGTTGTTACTATGTCTCTGAAATTTGGAGCATTGGCACACCAGTCAAGAGAATTGTTAAAGGAAGGTTCC  
 113▶ P N N W I Q N R E S C Y Y V S E I W S I W H T S Q E N C L K E G S  
 1001 ACGCTGTAACAATAGAGAGCAAAGAAGAAATGGATTTTACTGCTGAGCTTGGAGGAAGATTAAGGAAGCTATGATTACTGGGTGGGTTGTCTCAGG  
 147▶ T L L Q I E S K E E M D F I T G S L R K I K G S Y D Y W V G L S Q  
 1101 ATGGACACAGCGGACGCTGGCTTTGGCAAGATGGCTCCTCCTTCTCCTGGCCTGTTGCCAGAGAGATCCAGTCAAGTCAACCAAGTCTGTGGATA  
 180▶ D G H S G R W L W Q D G S S P S P G L L P A E R S Q S A N Q V C G Y

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**Eco72I (1236)**  
**BbrPI (1236)**

**PstI (1230)**

1201 CGTGAAAAGCAATTCCCTTCTTTCTGCTAACTGCAGCAGCTGGAAGTATTTTATCTGTGAGAAGTATGCGTTGAGATCCTCTGTCTGAAAGAAATTGTGT  
 213▶ V K S N S L L S S N C S T W K Y F I C E K Y A L R S S V •

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**MscI (1308)**  
**NheI (1302)**

1301 TCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGGACAAACCACAACCTAGAAATGCAGTGAAGAAAAATGCTTTATTTGTGAAATTTGTGATGC

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**HpaI (1440)**

1401 TATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCATTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTT

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**EcoRI (1536)**

1501 TTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTT  
 1601 CTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTCATTAGCTGTTGACGCTCACCTTCTTTCATGGAGTTAAGATATAGTGATT

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**SspI (1775)**
**SwaI (1789)**

1701 TTCCAAGGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACA

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**EcoO109I (1850)**

1801 TCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAG  
 1901 GAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGC  
141▶ • N R T Y K L P I L E E I T T K V L

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**SacI (2050)**

2001 TTGCCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCA  
 122▶ K G N M E I L V 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  
 2101 CCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAAGCAGACAGT  
 89▶ E D S Y P H R V 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

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**StuI (2214)**  
**Eco147I (2214)**

2201 GACCTGCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCACTTGGTCTGATGGCGCCCGACATGGTCTTGTGCTCCTCATAGAGC  
 56▶ V R G I Y A E I 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

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**BspHI (2364)**  
**XmnI (2356)**

2301 ATGGTGATCTTCTCAGTGGCAGCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTTCGATTATACT  
 22▶ M T I K E T A V E V L E L D Q Q S I N F T K M ◀

**VspI (2422)**  
**AseI (2422)**

2401 **ATGCCGATATACTATGCCGATGATTAATTGTCAA** **AACAGCGTGGATGGCGTCTCCAGC** **TATCTGACGGTTCAC** **TAAACGAGCTCTGCTTATATAGACCT** **SacI (2479)**

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**SpeI (2577)**

2501 **CCCACGTACACGCTACGCCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCC** **GTTGATTTACTAGTCAAAACAAACTCCCAT**

2600 **TGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATG** **ACTGCCAAAACCGCATCATCATGGTAATAGCGAT**

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**SnaBI (2705)**  
**Eco105I (2705)**

2700 **GACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAAGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGT** **CATTGACGTCAATAGGG**

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**NdeI (2810)**

2800 **GGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTA**

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**PstI (2989)**  
**SdaI (2988)** **PacI (2996)**

2900 **CTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGCGGT** **CAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTT**

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**PciI (3006)**  
**BspLU11I (3006)**

2999 **AA TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCG** **GTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCAT**

3099 **CACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGC** **GCTCTCCTGTTC**

3199 **CGACCCCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTACGCTGTAGGTATCTCAGTT** **CGGTGTAGGT**

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**ApaLI (3320)**

3299 **CGTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGT** **AAGACAC**

3399 **GACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACT** **ACGGCT**

3499 **ACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACC** **CCGCTGG**

3599 **TAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCT** **CAGTGG**

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**EagI (3756)**  
**PacI (3736)** **Swal (3745)** **NotI (3755)**

3699 **AACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC** **AGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTG**

3799 **TGGTTTTTGTGTGAATCGTAACATAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTG** **CCCCAGTCAAGTGCAGGT**

3899 **GCCAGAACATTTCTCTATCGAA**