



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)** 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGCC  
**HindIII (245)** **PvuII (239)** **Bsu36I (291)**  
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT  
**NgoMIV (441)**

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501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCCCTACCTGAGATCACCGGTCACCATGGGACTTTGGGGACAAAGCGTCCCGACCGCCTCGAG  
**NcoI (560)** **BstEII (555)** **AgeI (552)** **Eco47III**  
1 M G L W G Q S V P T A S S

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601 CGCTCGAGCAGGGCGCTATCCAGGAGCCAGGACAGCGTCGGAACAGACCATGGCTCCTGGACCCCAAGATCCTTAAGTTCGTCTTTCATCGTCGGC  
**Tth111I (630)** **NcoI (649)** **BbsI (685)**  
13▶ A R A G R Y P G A R T A S G T R P W L L D P K I L K F V V F I V A

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701 GTTCTGCTGCCGGTCCGGTTGACTCTGCCACCATCCCCGGCAGGACGAAGTCCCCAGCAGACAGTGGCCCCACAGCAACAGAGGGCAGCCTCAAGG  
**RsrII (710)**  
47▶ V L L P V R V D S A T I P R Q D E V P Q Q T V A P Q Q Q R R S L K

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801 AGGAGGAGTGTCCAGCAGGATCTCATAGATCAGAATACTGGAGCCTGTAACCCGTGCACAGAGGGTGTGGATTACACCATTGCTTCCAACAATTTGCC  
80▶ E E E C P A G S H R S E Y T G A C N P C T E G V D Y T I A S N N L P

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901 TTCTTGCCTGTATGTACAGTTTGTAAATCAGGTCAAACAATAAAGTTCTGTACCACGACCAGAGACACCGTGTGTCAAGTGTGAAAAAGGAAGCTTC  
**BsrGI (913)** **DraIII (969)** **HindIII (993)**  
113▶ S C L L C T V C K S G Q T N K S S C T T T R D T V C Q C E K G S F

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1001 CAGGATAAAACTCCCTGAGATGTCCCGACGTGTAGAACAGGGTGTCCAGAGGGATGGTCAAGGTCAAGTAAATGTACGCCCGGAGTGACATCAAGT  
147▶ Q D K N S P E M C R T C R T G C P R G M V K V S N C T P R S D I K

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1101 GCAAAAATGAATCAGCTGCCAGTTCCACTGGGAAAACCCAGCAGCGGAGGAGACAGTACCACCATCCTGGGGATGCTTGCCTCTCCATCACTACCT  
**PvuII (1112)**  
180▶ C K N E S A A S S T G K T P A A E E T V T T I L G M L A S P Y H Y L

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1201 TATCATCATAGTGGTTTTAGTCATATTTAGCTGTGGTTGTGGTTGGCTTTTCATGTCCGAAGAAATCATTCTTACCTCAAAGGCATCTGCTCAGGT  
213▶ I I I V V L V I I L A V V V V G F S C R K K F I S Y L K G I C S G

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1301 GGTGGAGGAGGTCCCGAACGTGTGCACAGAGTCCTTTTCCGGCGGCTTCATGTCTTCCAGAGTTCCTGGGGCGGAGACAATGCCCAACAGAGACC  
**EcoO109I (1308)**  
247▶ G G G G P E R V H R V L F R R R S C P S R V P G A E D N A R N E T

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1401 TGAGTAACAGATACTTGCAGCCACCCAGGTCTCTGAGCAGGAAATCCAAGGTGAGGAGTGGCAGAGCTAACAGGTGTACTGTAGAGTCCGCCAGAGGA  
280▶ L S N R Y L Q P T Q V S E Q E I Q G Q E L A E L T G V T V E S P E E

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1501 GCCACAGCGTCTGCTGGAACAGGCAGAAGCTGAAGGGTGTGAGGAGGAGGCTGCTGGTCCAGTGAATGACGCTGACTCCGCTGACATCAGCACCTG  
313▶ P Q R L L E Q A E A E G C Q R R R L L V P V N D A D S A D I S T L

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1601 CTGGATGCCTCGGCAACACTGGAAGAAGGACATGCAAAGGAAACAATTCAGGACCAACTGGTGGGCTCCGAAAAGCTCTTTTATGAAGAAGATGAGGCAG  
**BstAPI (1696)**  
347▶ L D A S A T L E E G H A K E T I Q D Q L V G S E K L F Y E E D E A

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1701 GCTCTGTACGTCCTGCCTGTGAAAGAATCTTTCAGGAAACAGAGCTTCCCTCATTTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGG  
**NheI (1759)** **MscI (1765)**  
380▶ G S A T S C L •

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1801 ACAAACCACAAGTGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTT  
**HpaI (1897)**

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1901 AACAACAACATTCATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCT  
**MfeI (1908)** **EcoRI (1993)**

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2001 AAAATACAGCATAGCAAACTTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAAT

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2101 GTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTCCCAAGGTTTGAAGTACTCTTATTCTTTATGTTTTAA  
**SapI (2175)**

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2201 TGCCTGACCTCCACATTCCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTATTAGGCAGAAATCCAG  
**SspI (2232)** **SwaI (2246)**

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2301 ATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAG  
**EcoO109I (2307)**

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2401 CTTTAGTTCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGT  
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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2501 CAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAA  
**SacI (2507)**  
108▶ 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

2601 **StuI (2671)**  
GTCCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATC  
75 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 H V A S I I  
2701 TCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGTCCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCT  
41 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 E V L E L D Q  
2801 **BbsI (2817)** **AseI (2879)**  
GCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTG  
8 Q S I N F T K M  
2901 **SacI (2936)**  
GATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTCGCTCAATGGGGCGGA  
3001 **SpeI (3034)**  
GTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCGTGAGTCAAAC  
3101 **SnaBI (3162)**  
CGCTATCCACGCCATTGATGTA CTGCTGCAAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTA CTGCAAGTAGGAAAGTCCCAT AAG  
3201 **NdeI (3267)**  
TCATGTA CTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTA CTGCCAAGTGGGC  
3301 AGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGGTCCG  
3401 **PacI (3453)** **PstI (3446)** **SdaI (3445)** **BspLU11I (3463)**  
TTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAAGCCAGCAAAAAGCCAGGAACCG  
3501 TAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGA  
3601 CTATAAAGATAACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGG  
3701 GAAGCGTGGCGCTTTCTCATAGCTACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCC  
3801 CGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGA  
3901 GCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAG  
4001 TTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAA  
4101 **PacI (4193)**  
AAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTA  
4201 **EagI (4213)** **Swal (4202)** **NotI (4212)**  
ACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAA  
4301 CAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA