



PvuI (7)
SgfI (6)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) **PvuII (239)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTTCACGGCCCGCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) **NaeI (441)**
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **BspHI (560)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTCATCATGAGGTTCCGCATCTACAAACGGAAGGTGCTAATCCT
1 M R F R I Y K R K V L I L

BsiWI
601 GACGCTCGTGGTGGCCGCTGCGGCTTGCCTCTGGAGTAGCAATGGGCGACAAAGGAGAGCGACGCCCTTGGCCCGCGTCTGGACGCGGAGGCC
13 T L V V A A C G F V L W S S N G R Q R K S D A L G P P L L D A E P

BsrBI (761) **SacII (776)** **SacII (784)**
701 GTACGGGTGCGGGCCACCTTGCTGTGTCCTAGGCATCCGCAGGGTCTCAAACGAATCGGCCCTCCTCTGGTTCCCGCGGTCCCGCGGCGGAGGTGG
47 V R G A G H L A V S V G I R R V S N E S A A P L V P A V P R P E V

AgeI (818) **Asp718I (815)** **Acc65I (815)** **XmaI (889)**
801 ACAACCTAACGCTGCGGTACCGGTCCCTGGTGTACCAGTTGAACTTCGATCAGATGCTGAGGAACGTCGGTAATGACGGCACCTGGAGCCCGGGGAGCT
80 D N L T L R Y R S L V Y Q L N F D Q M L R N V G N D G T W S P G E L
901 GGTGCTGGTGGTCCAGGTGCATAACAGGCCGAATACCTCAGGTTGCTGATAGACTCGCTTCGCAAAGCCAGGGTATTCAGGAAGTCTAGTCATCTTT
113 V L V V Q V H N R P E Y L R L L I D S L R K A Q G I Q E V L V I F

PvuII (1090)
1001 AGCCATGACTTCTGGTCCGAGAGATCAACAGTCTGATCTCCAGGGTGGATTCTGCCGGTCTGCAAGTGTCTTTCCGTTACGACTTCAGCTGTACC
147 S H D F W S A E I N S L I S R V D F C P V L Q V F F P F S I Q L Y
1101 CGAATGAGTTTCCGGTAGTGACCTAGAGATTGCCCCAGAGACCTAAAGAAGATGCAGCTCTGAAGTTGGGGTGCATCAATGCCGAATACCTGACTC
180 P N E F P G S D P R D C P R D L K K N A A L K L G C I N A E Y P D S
1201 CTTGCGCCATTACAGAGAGGCCAAGTCTCACAAACCAACACCATTTGGTGGTGGAAAGCTGCATTTTGTATGGAAAGAGTCAAAGTCTTCAAGATTAC
213 F G H Y R E A K F S Q T K H H W W K L H F V W E R V K V L Q D Y
1301 ACTGGCCTTATACTTCTCCTGGAAGAGGACCACTACTTAGCCCCAGACTTTTACCATGTCTTCAAAGATGTGGAAACTGAAGCAGCAGGAGTGTCCCTG
247 T G L I L F L E E D H Y L A P D F Y H V F K K M W K L K Q Q E C P

EcoO109I (1420)
1401 GGTGTGACGTCCTCTCTAGGGACCTACACCATTCCGGAGTTTCTATGGCATTGCTGACAAAGTAGATGTGAAAATTGAAAATCGACAGAGCACAA
280 G C D V L S L G T Y T T I R S F Y G I A D K V D V K T W K S T E H N

Ppu10I (1523) **NsiI (1523)**
NheI (1506) **BsaBI (1522)** **HindIII (1534)**
1501 CATGGGGCTAGCCTTGACCCGAGATGCATATCAGAAGCTTATCGAATGCACGGACACTTTCTGTACTTACGATGATTATAACTGGGACTGGACTCTTCAG
313 M G L A L T R D A Y Q K L I E C T D T F C T Y D D Y N W D W T L Q

AvrII (1654) **Ppu10I (1684)** **NsiI (1684)** **BspLU11**
1601 TATTTGACTCTAGCTTGTCTTCTAAAATCTGAAAGTCTTAGTTCCTCAGGCTCCTAGGATTTTTCATGCTGGAGACTGTGGTATGCATCACAAGAAAA
347 Y L T L A C L P K I W K V L V P Q A P R I F H A G D C G M H H K K

BspEI (1767)
1701 CATGTAGGCCATCCACCCAGAGTCCCAAATTGAGTCATTATTAATAGCAACAACAATACCTGTTTCCGGAAACTTAGTTATCGGTGAGAAGTTTCC
380 T C R P S T Q S A Q I E S L L N S N K Q Y L F P E T L V I G E K F P

AvrII (1819) **PstI (1882)**
1801 TATGGCAGCCATTTCCACCTAGGAAAAATGGAGGGTGGGAGATATTAGGGACCATGAACTCTGTAAGTATAGAAAGACTGCAGTGAGGAAAAAAA
413 M A A I S P P R K N G G W G D I R D H E L C K S Y R R L Q •

NheI (1931) **EcoRI (1925)**
1901 ATATCACAATTGCAAAAGCAAAAGTGAATTCGC TAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAAT

HpaI (2094)
2001 GCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAAC

EcoRI (2190)
2101 AACAACAATTGCATTCATTTTATGTTTCAGGTTGAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAA
2201 ATACAGCATAGCAAACTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTG
2301 CATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTTGAAGTACTCTTCAATTTCTTTATGTTTAAATGC

2401 **SspI (2429)** **Swal (2443)**
ACTGACCTCCCACATTCCCTTTT TAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATG

2501 **EcoO109I (2504)**
CTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTT

2601 TAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAAGCAGTCAGGAGCATAGTCAG
140 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 S

2701 **SacI (2704)** **BstXI (2733)**
AGATGAGCTCTGACATGCCACAGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTC
107 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

2801 **StuI (2868)**
CTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCC
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 I E

2901 **BspHI (3018)** **AseI (3076)**
CCAGTCTGGTCTGATGGCCGCCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCT
40 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 Q

3001 **XmnI (3010)** **AseI (3076)**
GAGAGATGTTGAAGTCTTCATGATGGCCCTCCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGAT
74 S I N F T K M

3101 **SacI (3133)**
GGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTCGTCATGGGGCGGAGT

3200 **SpeI (3231)**
TGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACC

3299 **SnaBI (3359)**
GCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCCAAGTAGGAAAGTCCATAAGGT

3399 **NdeI (3464)**
CATGTAAGTGGCATAATGCCAGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTAAGTGGCA

3499 GTTACCCTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATATTGACGTCAATGGCGGGGGTCTGT

3599 **PstI (3643)** **SdaI (3642)** **PacI (3650)** **BspLU11I (3660)**
TGGCGGTCAGCCAGCGGGCCATTTACCGTAAGTTATGTAACGCTG C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G A A A G G C C A G G A A C C

3697 GTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAATAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGG

3797 ACTATAAAGATACAGGGCTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCG

3897 **ApaI (3974)**
GGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTTCAGC

3997 CCGACCGTGGCGCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAG

4097 AGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCA

4197 GTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAA

4297 **PacI (4390)**
AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATT

4397 **Swal (4399)** **NotI (4409)**
AACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAA

4497 ACAAAACGAAACAAACAAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA