



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

1 GGATCTGGCATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTCGCAACGGGTTTTCGCCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTTCACGCGCCGCCGCCCTACCTGAGGGCC
 301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCTCCTGAACGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTCCTGACCCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

NcoI (560) **BstEII (555)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTACCATGGAAGATATAAAGGATTCTAAGTGAAGAGATTTTG
1▶ M E D I K D S K V K R F C

SspI (607)

601 CTCCAAAAATATTCTGATCATCCTTGGTTTTCACCTCTATCTTGGCTGTGATAGCTTTGATTGCTGTGGGACTGACCCAGAACAACCTTTGCCAGAAAAT
 13▶ S K N I L I I L G F T S I L A V I A L I A V G L T Q N K P L P E N

EagI (764) **NgoMI (762)** **NaeI (762)**

701 GTTAAGTATGGGATTGTGTTGGATGCGGGGTCTCTCACCAACCTGTACATCTACAAGTGGCCGGCCGAGAAGGAGAATGACACAGGGGTGGTGCAGC
 47▶ V K Y G I V L D A G S S H T N L Y I Y K W P A E K E N D T G V V Q

Ppu10I (882) **NsiI (882)**

801 AGTTAGAGGAATGCCAAGTAAAAGGTCCTGGAATCTCAAAATATGCTCAGAAAACAGATGAAATCGGTGCGTACCTGGCCGAATGCATGGAACGTGCCAC
 80▶ Q L E E C Q V K G P G I S K Y A Q K T D E I G A Y L A E C M E L S T

PshAI (930) **SphI (959)** **Tth111I (997)**

901 CGAACTGATACCAACATCCAAGCATCACCAGACTCCTGTCTACCTGGGAGCCACAGCAGGCGATGCGCTTGCTTAGAATGAAAAGTGAACAATCGGCAGAC
 113▶ E L I P T S K H H Q T P V Y L G A T A G M R L L R M E S E Q S A D

PstI (1010)

1001 GAGGTCCTGGCTGCAGTGTCAACGAGCCTTAAGGCTACCCCTTTGACTTCCAGGGTCCCAAGATCATCACTGGACAAGAGGAAGGTGCCTATGGGTGG
 147▶ E V L A A V S T S L K G Y P F D F Q G A K I I T G Q E E G A Y G W
 1100 ATTACTATTAACATCTGCTGGGAGATTCACTCAGGAACAGAGTTGGCTAAGCCTCATCTCAGACAGTCAGAAAACAGAAAACCTTTGGCGCTTTGGATC
 180▶ I T I N Y L L G R F T Q E Q S W L S L I S D S Q K Q E T F G A L D
 1200 TCGCGGAGCCTCCACACAGATCACCTTCTGTCGCCCAAAACAGCACTATAGAGTCCCCAGAAAACCTCTCTGCAATTCCGTCCTATGGCGAGGACTATAC
 213▶ L G G A S T Q I T F V P Q N S T I E S P E N S L Q F R L Y G E D Y T

BsrGI (1301)

1300 TGTGTACACACACAGCTTCTGTGCTATGGGAAGGATCAGGCTCTCTGGCAGAACTGGCCAAGGACATTGAGTTTCAAGTGGTGGCGTCTTAAGGAC
 246▶ V Y T H S F L C Y G K D Q A L W Q K L A K D I Q V S S G G V L K D

BstBI (1471) **AsuII (1471)**

1400 CCATGCTTTAACCCAGGATACGAGAAGGTTGTGAATGTAAGTGAGCTCTATGGCACTCCCTGCACAAAAGATTGAAAAGAAGTACCATTGATCAGT
 280▶ P C F N P G Y E K V V N V S E L Y G T P C T K R F E K K L P F D Q

BstXI (1506) **BstBI (1499)** **AsuII (1499)**

1500 TTCGAATCCAGGGCACTGGAGACTACGAACAGTGCCACAGAGCATCCTTGGCTCTTCAACAACAGCCACTGCCCTTACTCCAGTGTGCCTCAATGG
 313▶ F R I Q G T G D Y E Q C H Q S I L E L F N N S H C P Y S Q C A F N G

XcmI (1617) **NotI (1617)**

1600 CGTCTTCCGCACTCTCCATGGGAGTTTTGGGGCGTTTTCTGCTTTCTACTTTGTGATGGATTTTTTAAGAAGGTAGCGAAAACAGTGTATCTCT
 346▶ V F L P P L H G S F G A F S A F Y F V M D F F K K V A K N S V I S

ScaI (1796)

1700 CAGGAGAAAATGACCGAGATAACAAAAATTTTTGCTCAAAATCTTGGGAAGAGACAAAGACATCTTATCCTTCAGTAAAGGAGAAGTACCTGAGTGA
 380▶ Q E K M T E I T K N F C S K S W E E T K T S Y P S V K E K Y L S E

KasI (1810) **XmnI (1864)**

1800 ACTGCTTCTGGGCGCTACATCCTCTCTCCTGCAAGGCTATAACTTCACAGACAGCTCCTGGGAACAGATTATTTTATGGCAAGATCAAGACAG
 413▶ Y C F S G A Y I L S L L Q G Y N F T D S S W E Q I H F M G K I K D S

PvuII (1949)

1900 CAACGCGGGTGGACTTTGGGCTACATGCTGAACCTTGACCAACATGATCCCAGCTGAACAGCCGTTGTCCCGCCTCTCCCTCACTCCACCTACATCGGC
 446▶ N A G W T L G Y M L N L T N M I P A E Q P L S P P L P H S T Y I G

StuI (2043) **Eco147I (2043)** **BsrBI**

2000 CTCATGGTTCTTCTCCCTGCTTGGTTGCTGTGGCCATCACAGGCTGTTCATCTATAGCAAGCCTTCATATTTCTGAAAAGAGGAGTATAGCAGG
 480▶ L M V L F S L L L V A V A I T G L F I Y S K P S Y F W K E A V •

NheI (2125)

2100 AGCGGCTGAAATGTGCTGGCTGGAGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAAACCAACTAGAATGCAGTGAAAAAATG

2200 CTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAG
HpaI (2263) MfeI (2274)

2300 GTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAAA
EcoRI (2359)

2400 TCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTC
SspI (2598)

2500 ATGGAGTTAAGATATAGTGATTTTTCCCAAGTTTGAAGTCTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTAGTAAA

2600 ATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTT
SwaI (2612)

2700 AGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGT
1+1 • N R T Y K L P I L

2800 TCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGC
130 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 L E R C M G C P S

2900 TGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAAT
97 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 G N S V A S G I
BstXI (2902)

3000 GGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACA
64 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 K T R I A A G V
StuI (3037)
Eco147I (3037)

3100 TGGTGCTTGTTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCC
30 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 I N F T K M
XmnI (3179)

3200 TCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTATCTGACGGTTCAT
AseI (3245)

3299 AACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGAT
AseI (3245)

3399 TTACTAGTCAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGTATCCACGCCATTGATGTAAGTCCAAA
SpeI (3400)

3498 ACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGCATAATGCCAGGCGGGCCA
SnaBI (3528)
Eco105I (3528)

3598 TTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTAAGTGGCAGTTTACCCTAAATACTCCACCCATTGACGT
NdeI (3633)

3698 CAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATATTGACGTCAATGGGGGGGTCGTTGGCGGTGACCCAGGCGGGCCATTTACCG

3798 TAAGTTATGTAACGCTG CAG GTT AA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAGGCCGCGTTGCTGGCGTTTTTCC
PstI (3812)
SdaI (3811) PacI (3819) BspLU11I (3829)

3896 ATAGGCTCCGCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGG
BspLU11I (3829)

3996 AAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGC

4096 TGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATC
ApaLI (4143)

4196 GTCTTGTAGTCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTT

4296 CTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCT

4396 TGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCT

4496 TTTCTACGGGCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCCAATAAAAAT
PacI (4559) SwaI (4568) EagI (4579)
NotI (4578)

4595 ATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAAA
NotI (4578)

4695 TAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA