



PvuI (7)
SgfI (6) 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGCGCAATTGAACGGGTGCCTA
MfeI (82)
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTATGTCGTGACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACCGCGCCGCCCTACCTGAGGCC
HindIII (245)
Bsu36I (291)
301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

BstEII (555)
AgeI (552) **NcoI (560)** 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATGGGGTCCGCTTTGAGCGGGTAGTCCGGAGAGTGGT
BsrBI (577) **BspEI (587)**
1▶ M G S A F E R V V R R V V

NcoI (612)
601 CCAGGAGCTGGACCATGGTGGGGAGTTCATCCCTGTGACCAGCCTGCAGAGCTCCACTGGCTTCCAGCCCTACTGCCTGGTGGTTAGGAAGCCCTCAAGC
13▶ Q E L D H G G E F I P V T S L Q S S T G F Q P Y C L V V R K P S S
701 TCATGGTCTGAAAACCCGTTATAAGTGTGCAACCTGTCTATCAAGGACATCCTGGAGCCGGATGCCGCGGAACAGACGTGCAGCGTGGCAGGAGCT
47▶ S W F W K P R Y K C V N L S I K D I L E P D A A E P D V Q R G R S

NcoI (815)
801 TCCACTTCTACGATGCCATGGATGGGAGATACAGGGCAGCGTGGAGCTGGCAGCCCCAGGACAGGCAAAGATCGCAGGCGGGGCCGGTGTCTGACAG
80▶ F H F Y D A M D G Q I Q G S V E L A A P G Q A K I A G G A A V S D S
901 CTCAGCACCTCAATGAATGTGACTCGCTGAGTGTGGACCTAACACCTGGCAGACTCTGCTCCATGAGAGGCACCTGCCGAGCCAGAACAACAAAGTC
113▶ S S T S M N V Y S L S V D P N T W Q T L L H E R H L R Q P E H K V

FspI (1010)
1001 CTGCAGCAGCTGCGCAGCCGGGGACAACGTGTACGTGGTACTGAGGTGCTGCAGACACAGAAGGAGGTGGAAGTACGCGCACCCACAAGCGGGAGG
147▶ L Q Q L R S R G D N V Y V V T E V L Q T Q K E V E V T R T H K R E

BbrPI (1128) 1101 GCTCGGGCCGTTTTCCCTGCCCGGAGCCACGTGCTTGCAGGGTGAGGGCCAGGGCCATCTGAGCCAGAAGAAGACGGTACCATCCCCTCAGGCAGCAC
180▶ G S G R F S L P G A T C L Q G E G Q G H L S Q K K T V T I P S G S T
1201 CCTCGCATTCCGGGTGGCCAGCTGTTATTGACTCTGACTTGAGCCTCTTCTTCCCGGATAAGAAGCAGAGGACCTTCCAGCCACCCGCGACAGGC
213▶ L A F R V A Q L V I D S D L D V L L F P D K K Q R T F Q P P A T G

MscI (1327) 1301 CACAAGCCTTCCACGAGCGAAGGCGCCTGGCCACAGCTGCCCTCTGGCCTCTCCATGATGAGGTGCCCTCCACAACCTCCTGACAGATGGGGTCCCTCGCG
247▶ H K R S T S E G A W P Q L P S G L S M M R C L H N F L T D G V P A
1401 AGGGGGGCTTCACTGAAGACTTCCAGGGCCTACGGGCAGAGGTGGAGACCATCTCAAAGAACTGGAGCTTTTGGACAGAGAGCTGTGCCAGTGTCTGCT
280▶ E G A F T E D F Q G L R A E V E T I S K E L E L L D R E L C Q L L L
1501 GGAGGGCCTGGAGGGGTGCTGCGGGACAGCTGGCCCTGCGAGCCTTGGAGGAGGCCTGGAGCAGGGCCAGAGCCTTGGGCGGTGGAGCCCTGGAC
313▶ E G L E G V L R D Q L A L R A L E E A L E Q G Q S L G P V E P L D

BspEI (1639) 1601 GGTCAGCAGGTGCTGTCTGGAGTGCCTGGTGTGTCTCCGGAATGCTGGTGCCGGAACCTCGTATCCCTGTTGTCTACTCTGGGGGACTGACCA
347▶ G P A G A V L E C L V L S S G M L V P E L A I P V V Y L L G A L T

XhoI (1765)
BsrBI (1762)
1701 TGCTGAGTGAAACGCAGCACAAGCTGTGGCGGAGGCCTGGAGTGCAGACCCTGTTGGGGCCGCTCGAGCTGGTGGGCAGCCTCTTGAGCAGAGTGC
380▶ M L S E T Q H K L L A E A L E S Q T L L G P L E L V G S L L E Q S A

XmaI (1834) 1801 CCCGTGGCAGGAGCGCAGCACCATGTCCCTGCCCCCGGGCTCCTGGGGAACAGCTGGGGCAAGGAGCACCAGCCTGGGTCTTGTGGACGAGTGTGGC
413▶ P W Q E R S T M S L P P G L L G N S W G E G A P A W V L L D E C G

BbrPI (1924) 1901 CTAGAGCTGGGGAGGACTCCACAGTGTGCTGGGAGCCGAGGCCAGGGCCGATGTGTGACTCTACGCCTCCTGGCACTGTATCAGGACTGA
447▶ L E L G E D T P H V C W E P Q A Q G R M C A L Y A S L A L L S G L

MscI (2023)
NheI (2017) 2001 GCCAGGAGCCCCACTAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTTG
480▶ S Q E P H •

HpaI (2155) **MfeI (2166)**
2101 TGAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAAATGCATTATTTATGTTTCAGGTTTCAGGGG

EcoRI (2251)
2201 GAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTC
2301 TACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTTCTTCATGGAGTTT

2401 **SapI (2433)** AAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTGCTCTTCATTCTTTATGTTTAAATGCACTGACCTCCCACATCCCTTTTATGATAAAATATTGAGA
SspI (2490)

2501 **SwaI (2504)** AATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGG
2601 **ACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATG**
141 • N R T Y K L P I L E E I
2701 **GTGGTTTTGACCAGTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCGACATGCCACAGGGGCTGACCACCC**
127 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 V V R
2801 **TGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCAATGGCAATGGC**
94 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 A I A

2901 **TTCAGCACAGACAGTGCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTG**
61 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 H H K
StuI (2929)

3001 **TTGTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCCTATAGT**
27 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 (3071)

3101 **GAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTC**
AseI (3137)

3201 **TGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCGTTGATTTACTAGTCA**
SpeI (3292)

3301 **AAACAACTCCCATTGACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGACTGCCAAAACCGCATCATC**

3401 **ATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAAGTCAATGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCAT**
SnaBI (3420)

3501 **TGACGTCAATAGGGGGCGTACTTGCCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGT**
NdeI (3525)

3601 **CCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTA**

3701 **ACGCCTGCAGGTTAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCC**
PacI (3711) **SdaI (3703)** **BspLU11I (3721)**

3801 **CCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTG**

3901 **CGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCA**

4001 **GTTCCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGACGAAACCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAA**
ApaLI (4035)

4101 **CCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGG**

4201 **CCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAC**

4301 **AAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTC**

4401 **TGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCAT**
EagI (4471) **PacI (4451)** **SwaI (4460)** **NotI (4470)**

4501 **TACATCTGTGTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAG**

4601 **TGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA**