



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82) EcoNI (96)

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC
PvuII (239) EcoNI (287) **Bsu36I (291)**

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) BspHI (560)
501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGTCATGAACATCTGCAACAAACCTCCAACAAGACAGCCCC
1 M N I C N K P S N K T A P
Eco47III (662)

601 CGAGAAGAGTGTGTGGACAGCGCCTCACAGGACAGTGGGCTTCCCCAGAAGTGCAGGGCCAGCGCTCTCGAAGGAATGGATGGAGCTGGCCGCCAC
13 E K S V W T A P S Q D S G P S P E L Q G Q R S R R N G W S W P P H
BsrBI (700)

701 CCCTCCAGATTGTGCCTGGCTGCTCTACCTCTTCTCGCGTGATTGGCTTTGGGTCCTTGTCCCTCTTGCCTCACCCTGGTGCCTGCTGGCT
47 P L Q I V A W L L Y L F F A V I G F G V L V P L L P H H W V P A G

PshAI (846)
ApaLI (838) 801 ATGCTTGCATGGGGCCATCTTTGCTGGCCACCTTGTGGTGCACCTGACTGCTGTCTCCATCGATCCAGCAGATGCCAATGTGCGGGACAAGAGCTACTC
ClaI (859)
80 Y A C M G A I F A G H L V V H L T A V S I D P A D A N V R D K S Y S

FspI (933)
Bsp120I (901) 901 TGGGCCCTGCCATCTTCAACCGCAGCCAGCATGCGCATGTCATTGAAGACCTGCACTGCAACCTATGCGACGTGGACGTGAGTGC GCGATCCAACAC
113 G P L P I F N R S Q H A H V I E D L H C N L C D V D V S A R S K H
SphI (930)

1001 TGCAGCGCTGCAATAAGTGCATGCGGCTTCGATCACCATTGCAAGTGGCTCAACAACCTGCTGGGCGAGAGGAATATCGGCTCTTTCTACACAGTG
147 C S A C N K C V C G F D H H C K W L N N C V G E R N Y R L F L H S
1101 TGGCATGCTTTATTGGGTGCTGCTCCTGGTGTGGTGGCCACTATGCTTCTGTTGGAGTTCTTTGTCAACCCCATGCGACTTCGTACCAACCAACA
180 V A S A L L G V L L L V L V A T Y V F V E F F V N P M R L R T N Q H

XcmI (1277)
1201 CTTTGAAGTCTTGAAGAACCACCGATGTGTGGTTTGTGTTCTTGCCTGCTGCCCTGTGGAGACCCAGGCTCCTGCCATCTGGCCTGGCCGCCCTG
213 F E V L K N H T D V W F V F L P A A P V E T Q A P A I L A L A A L
1301 CTCATCCTTCTGGCCTGCTTTCTACAGCCCTGCTTGGCCACCTGCTCTGCTTCCACATTTATCTAATGTGGACAAGCTCACCACCTATGAATACATCG
247 L I L L G L L S T A L L G H L L C F H I Y L M W H K L T T Y E Y I

XcmI (1472)
1401 TGCAGCACGTCAGCTCAGGAAGCAAAGGAGACCCACAAGGAGCTGGAGTCATGCCCCGCAAGGTGCGGTCATTGAGGATGGAGTTCTACATGAG
280 V Q H R P A Q E A K E T H K E L E S C P R K V R S I Q E M E F Y M R
1501 GACCTTACGCTATGTCGTCAGAGCCCTTGGCCAGGCTAGGACAGCAGCATTAAATGCCAATCCTTCCAGTTTCTTGGCACCAAGGCAAGTGGAA
313 T F S H V R P E P S G Q A R T A A L N A N P S Q F L A T Q G Q V E

BamHI (1643)
1601 CCACCACTACCCTCCTCCTCAGACACTGGCTCTGCCTCCACGGATCCAACCCAGAAAAAGAGGAAGCGGCGAGTGTATAGATTGCCAGGTCTGGGG
347 P P L P S S S D T L A L P P R I Q P Q K K R R R V Y R L P R S G

SapI (1763)
BsrBI (1755) 1701 TCTTGGACCGAGAGCTCCACTGCCAGTTACGGGAGACTGGGACTCCTAGCCGCGCTCCAGCTCTTCATCTGATTCCACCAGTGCAGCCAGTGCA
380 V L D R E L P L P R L R E T G T P S R R S S S S S D S T S A S P V H
SphI (1797)

XmnI (1849)
1801 TGCTGGTGGCTCTGCAGGCGCTACTACTCGGCATCAGCTGAGTCCATGGAAGAGATTCCAGTGGCCAGACGCGCTGGGAGTGGCCACTGGGTGCC
413 A G G S A G A Y Y S A S A E S M E E I P V A Q T R L G S A A L G A
1901 CCAGGAGCCAGGGTTCGAGAGTCTGGGCTGGCTCTACAGGCACGTTGCGCTGCTTTTTGTGAGCCGAGCAGTGGCGAGCCGGAACCTGGAGGCG
447 P G A R G R E S G L A L Q A R S P A V F V S P S S G E P G T P G G

NheI (2048)
2001 GCGACGCGCTGCCTTAGCCCACTAAGGCTAAGGACTAGAGGCAGGAGGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAA
480 G D G L P •

HpaI (2186) 2101 CTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAAACAA
MfeI (2197)

EcoRI (2282)
2201 TTGCATTCATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCA

2301 TAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCAATGTGCATTAGCT

2401 GTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGTTTGAAGTCTTCTTCTTTATGTTTTAAATGCACTGACCT

SapI (2464)

2501 CCCACATTCCCTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGC

SspI (2521) SmaI (2535)

2601 CCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCT

141 • N R

2701 GGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGC

138 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 I L

BstXI (2825)

2801 TCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCC

104 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 K Q G

StuI (2960)

2901 CGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTT

71 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 G T K

3001 GGTCTGATGGCCGCCCGACATGGTGGCTTGTGCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATG

38 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 S I

XmnI (3102) AseI (3168)

3101 TGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTC

4 N F T K M

3201 CAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGAC

SpeI (3323)

3301 ATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGTATCCAGC

SnaBI (3451)

3401 CCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGG

NdeI (3556)

3501 GCATAATGCCAGGCGGGCCATTTACCGTCAATGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGTGTAAGTCCCAAGTGGGCGATTTACCGTA

3601 AATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATATTGACGTCAATGGGCGGGGCTGTTGGGCGGTCA

PacI (3742) SdaI (3734) BspLU11I (3752)

3701 GCCAGGCGGGCCATTTACCGTAAGTTATGTAACCGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCG

3801 CGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAAGGTTGGCGAAACCCGACAGGACTATAAAGATA

3901 CCAGGCGTTTTCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTCTCCCTTCGGGAAGCGTGGCG

ApaLI (4066)

4001 CTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCAGCCGCTGCG

4101 CCTTATCCGGTAACTATCGTCTTGTGATCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGT

4201 AGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGA

4301 AAAAGAGTTGGTAGCTCTTGTATCCGGCAAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACCGCAGAAAAAAGGATCTC

PacI (4482) SmaI (4491)

4401 AAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC

EagI (4502) NotI (4501)

4501 AGCGCCGCAATAAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTGTGTAATCGTAACATAACGCTCTCCATCAAAAACAAACGAAAC

4601 AAAACAACTAGCAAAATAGGCTGTCCCAAGTCAAGTGCAGGTGCCAGAACATTTCTATCGAA