



PvuI (7)
SgfI (6) MfeI (82) EcoNI (96)
 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCCGCAATTGAACGGGTGCCTA
 101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
 EcoNI (287)
 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552)
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCCCTACCTGAGATCACCGGTCCACCATGGGGTGCCTGCTGTTTCTGCTGCTCTGGCGCTCCT
 1 M G C L L F L L L W A L L

Eco47III (613) **BglII (656)**
 601 CCAGGCTTGGGGAAGCGTGAAGTCCCGCAAAGGCTTTTCCCTCCGCTGCCTCCAGATCTCGTCTTCCCAATAGCAGCTGGACGCGCACCGACGGC
 13 Q A W G S A E V P Q R L F P L R C L Q I S S F A N S S W T R T D G

BsrBI (756)
Tth11II (748)
 701 TTGGCGTGGCTGGGGAGCTGCAGACGCACAGCTGGAGCAACGACTCGGACACCGTCCGCTCTCTGAAGCCTTGGTCCCAGGGCACGTTACAGCACCAGC
 47 L A W L G E L Q T H S W S N D S D T V R S L K P W S Q G T F S D Q

EcoRI (862)
XmnI (858)
 801 AGTGGGAGACGCTGCAGCATATATTTCCGGTTTATCGAAGCAGCTTACCAGGGACGTGAAGGAATTCCGCAAAATGCTACGCTTATCCTATCCCTTGG
 80 Q W E T L Q H I F R V Y R S S F T R D V K E F A K M L R L S Y P L E

ApaLI (925) **EcoRV (979)**
 901 GCTCCAGGTGTCCGCTGGCTGTGAGGTGCACCCTGGGAACGCCTCAAATAACTTCTTCCATGTAGCATTTCAAGGAAAAGATATCCTGAGTTTCCAAGGA
 113 L Q V S A G C E V H P G N A S N N F F H V A F Q G K D I L S F Q G

EcoO109I (1022) **MscI (1043)**
 1001 ACTTCTTGGGAGCCAACCAAGAGGCCCACTTTGGGTAACCTTGGCCATTCAAGTGCTCAACCAGGACAAGTGGACGAGGGAACAGTGCAGTGGCTCC
 147 T S W E P T Q E A P L W V N L A I Q V L N Q D K W T R E T V Q W L

StuI (1178)
 1101 TTAATGGCACCTGCCCAATTTGTGTCAGTGGCCTCCTTGTGATCAGGGAAGTGGAACTGAAGAAGCAAGTGAAGCCCAAGGCCTGGCTGCCGTGGCCC
 180 L N G T C P Q F V S G L L E S G K S E L K K Q V K P K A W L S R G P

1201 CAGTCTGGCCCTGGCCGTCTGCTGCTGGTGTGCCATGTCTCAGGATTCTACCCAAAGCCTGTATGGGTGAAGTGGATGCGGGGTGAGCAGGAGCAGCAG
 213 S P G P G R L L L V C H V S G F Y P K P V W V K W M R G E Q E Q Q

1301 GGCACCTCAGCCAGGGGACATCCTGCCAATGCTGACGAGACATGGTATCTCCGAGCAACCCTGGATGTGGTGGCTGGGGAGGCAGCTGGCCTGTCTGT
 247 G T Q P G D I L P N A D E T W Y L R A T L D V V A G E A A G L S C

XbaI (1416) **Tth11II (1429)** **NcoI (1463)**
 1401 GGGTGAAGCACAGCAGTCTAGAGGGCCAGGACATCGTCTCTACTGGGGTGGGAGCTACACCTCCATGGGCTTGATTGCCTTGGCAGTCTGGCGTGCTT
 280 R V K H S S L E G Q D I V L Y W G G S Y T S M G L I A L A V L A C L

1501 GCTGTTCTCCTCATTGTGGGCTTACCTCCCGTTTAAAGGCAAACCTCTATCAGGGCGTCTGTGACTCGCCTTGCCACATCTGTGCTCTGGAAC
 313 L F L L I V G F T S R F K R Q T S Y Q G V L •

MscI (1606)
NheI (1600)
 1601 GCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTA

HpaI (1738) MfeI (1749)
 1701 TTGCTTTATTTGTAACCATTATAAGCTGAATAAAACAGTTAAACAACAACAATTGCATTATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTT

EcoRI (1834)
 1801 TTAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTGAAATCCTTTTCT
 1901 GAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTTCATGGAGTTTAAAGATATAGTGTATTTT

SapI (2016) **SspI (2073)** **SwaI (2087)**
 2001 CCCAAGTGTGAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATC

EcoO109I (2148)
 2101 ATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGA
 2201 ACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTT
 141 • N R T Y K L P I L E E I T T K V L K

BstXI (2377)
 2301 GCCATTCTCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCTGTCACATGCCACAGGGGCTGACCAACCCTGAGGATCTGTCCACC
 122 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 I S R D V

2401 TCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCCAGCAGACAGTGA
 88 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 E A C V T V

2501 CCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGCTCTGATGGCCGCCCGACATGGTGCTTGTGTCCTCATAGAGCAT
55 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 N D E Y L M
StuI (2512)
BspHI (2662)
BbsI (2658)
XmnI (2654)
2601 GGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTAT
22 T I K E T A V E V L E L D Q Q S I N F T K M
AseI (2720)
2701 GCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCTAAACGAGCTCTGCTTATATAGACCTCC
SpeI (2875)
2801 CACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATGA
2901 CGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCCAAACCGCATCATCATGGTAATAGCGATGAC
SnaBI (3003)
3001 TAATACGTAGATGTAAGTCCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGC
NdeI (3108)
3101 GTACTTGGCATATGATACACTTGTACTGCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTA
PacI (3294)
3201 TGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCCTGCAGGTTAATT
SdaI (3286)
BspLU11I (3304)
3301 AGAACATGTGAGCAAAAGGCCAGAAAAGGCCAGGAACCGTAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACA
3401 AAAATCGACGCTCAAGTCAGAGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCGTGAAGCTCCCTCGTGCCTCTCTGTTCCGAC
3501 CCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTT
ApaLI (3618)
3601 CGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTAGCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACT
3701 TATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACAC
3801 TAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGC
3901 GGTGGTTTTTTTTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACG
EagI (4054)
PacI (4034) SwaI (4043) NotI (4053)
4001 AAAACTCACGTAAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGT
4101 TTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTGCAAGTGCAGGTGCCA
4201 GAACATTTCTCTATCGAA