



PvuI (7)
SgfI (6) MfeI (82) EcoNI (96)
 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
 EcoNI (287)
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCTGTGGTGCCTCTGAAGTGCCTCCGCGCTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTGTTTCGTTT

KasI (535) **BstEII (555)**
AgeI (552)
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATTGGCTTACGAGCAGCGCTTGAACATGATGTGGGAGGA
 1 M A S A A R L T M M W E E

MscI (654) **NsiI (675)**
 601 GGTACATGCCCTATCTGCTGGACCCCTTCTGGAGCCTGTGAGCATCGAGTGTGGCCACAGCTTCTGCCAGGAATGCATCTCTCAGTTGGGAAAGGT
 13 V T C P I C L D P F V E P V S I E C G H S F C Q E C I S Q V G K G

Eco47III (728) **NheI (765)**
 NgoMIV (722)
 701 GGGGCGAGCGTCTGTCTGTGTGCCGCGAGCGCTTCTGTCTCAAGAATCTCCGGCCCAATCGACAGCTAGCCAACATGGTGAACAACCTTAAAGAAATCA
 47 G G S V C P V C R Q R F L L K N L R P N R Q L A N M V N N L K E I
 801 GCCAGGAGGCCAGAGAGGGCACACAGGGGAACGGTGTGAGTGCATGGAGAGAGACTTACCTGTTCTGTGAGAAAGATGGGAAAGCCCTTTGCTGGGT
 80 S Q E A R E G T Q G E R C A V H G E R L H L F C E K D G K A L C W V
 901 ATGTGCCAGTCTCGAAACACCGTGACACGCATGGTCCCTCTTGGAGGAGTGCACAGGAGTACCAGGAGAAGCTCCAGTTGGCATTAGGGGAAGT
 113 C A Q S R K H R D H A M V P L E E A A Q E Y Q E K L Q V A L G E L
 1001 AGAAGAAAGCAGGAGTTGGCTGAGAAAGTGGAAAGTGAATGCAATAAAGAGAGAGAGCTGGAAGAAAACAGTGGAACACAGAAATCTAGGATTCAGC
 147 R R K Q E L A E K L E V E I A I K R A D W K K T V E T Q K S R I H
 1101 CAGAGTTTGTGCAGCAAAAAAATCTCTGGTTGAAGAAGAACAGAGGCAGCTGCAGGAGCTGGAGAAGGATGAGAGGGAGCAGCTGAGAATCCTGGGGGA
 180 A E F V Q Q K N F L V E E E Q R Q L Q E L E K D E R E Q L R I L G E

SfiI (1206)
 1201 GAAAGAGGCCAAGCTGGCCAGCAGAGCCAGGCCCTACAGGAGCTCATCTCAGAGCTAGATCGAAGGTGCCACAGCTCAGCACTGGAAGTCTGCAGGAG
 213 K E A K L A Q Q S Q A L Q E L I S E L D R R C H S S A L E L L Q E
 1301 GTGATAATGTCTGGAAAGGAGTGTGAGTCTGGAACTGAAGGACCTGGATATTACCTCTCCAGAAGTCCAGGAGTGTGTGCCATGTGCCAGGGCTGAAGA
 247 V I I V L E R S E S W N L K D L D I T S P E L R S V C H V P G L K

BspLUIII (1411) **BamHI (1434)**
 1401 AGATGCTGAGGACATGTGCACTCCACATCACTCTGGATCCAGACACAGCAATCCGTGGCTGATACTTTCAGAAGATCGGAGACAAGTGGGCTTGGAGA
 280 K M L R T C A V H I T L D P D T A N P W L I L S E D R R Q V R L G D

BsaBI (1537)
 1501 CACCCAGCAGAGCATACTGGAAATGAAGAGAGATTTGATAGTTATCTATGGTCTGGGTGCCAGCACTTTTACTCTGAAAAACATTACTGGGAGGTA
 313 T Q Q S I P G N E E R F D S Y P M V L G A Q H F H S G K H Y W E V

StuI (1616) **FspI (1649)** **BstAPI (1662)**
 1601 GATGTGACAGGAAAGGAGGCTGGGACCTGGGTGTCTGCAGAGACTCTGTGCGCAGGAAGGGGCACTTTTGTAGTTCCAAGAGTGGCTTCTGGACAA
 347 D V T G K E A W D L G V C R D S V R R K G H F L L S S K S G F W T
 1701 TTTGGTTGGAAACAAAATAATGAGGCTGGCACCTACCCAGACTCCCCTCCAGTCCAGTGCCTCCATGCCAAGTTGGGATTTTCTGGACTA
 380 I W L W N K Q K Y E A G T Y P Q T P L H L Q V P P C Q V G I F L D Y
 1801 TGAGGCTGGCATGGTCTCCTTCTACAACATCACTGACCATGGCTCCCTCATCTACTCCTTCTGAAATGTGCCTTTACAGGACCTCTGCGGCCCTTCTC
 413 E A G M V S F Y N I T D H G S L I Y S F S E C A F T G P L R P F F

SspI (1957) **BamHI (1972)**
 1901 AGTCTGGTTTCAATGATGGAGGAAAAACACAGCCCTCTAACCCCTCTGTCCACTGAATATTGGATCACAAGGATCCACTGACTATTGATGGCTTTCTC
 447 S P G F N D G G K N T A P L T L C P L N I G S Q G S T D Y •

AvrII (2017) **MscI (2029)**
 2001 TGGACTGCCACTCTCCCTAGTCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTT

HpaI (2161) **MfeI (2172)**
 2101 TATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTAAACAACAACATTGCATTCTTTTATGTTTCAGGTT

EcoRI (2257)
 2201 CAGGGGGAGGTGTGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCCAAATCA
 2301 AGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTCATG

SapI (2439) **SspI (2496)**
 2401 GAGTTTAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTCTTTCATTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATGTAATAA

SwaI (2510)
 2501 TTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTGTAGT

2601 AGTTGACTTAGGGAACAAAGAACCTTAAATAGAAATTTGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCC
 141 • N R T Y K L P I L E

2701 TCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGA
129 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 V
BstXI (2800)

2801 CCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGC
96 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 A
StuI (2935)

2901 AATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGG
63 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 H
BbsI (3081)
XmnI (3077)

3001 TGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCC
29 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
AseI (3143)

3101 TATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAC
SpeI (3298)

3201 GAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTTGATTTAC
SnaBI (3426)

3301 TAGTCAAACAAACTCCCATTGACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAACCGC
NdeI (3531)

3401 ATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGCATAATGCCAGGGGGCCATTAC
NdeI (3531)

3501 CGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTAAGTGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATG
3601 GAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGGGGCCATTACCGTAAGT
PaeI (3717)
SdaI (3709)
BspLU11I (3727)

3701 TATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGGCTGGCGTTTTTCCATAGGCT
3801 CCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCC
3901 CTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGT
ApaLI (4041)

4001 ATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGA
4101 GTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAG
4201 TGGTGGCCTAACTACGGTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCG
4301 GCAAACAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTAC
EagI (4477)
PaeI (4457) SwaI (4466) NotI (4476)

4401 GGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTAT
4501 TTTTATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGT
4601 CCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA