



125

PvuI (7)
SgfI (6) MfeI (82) EcoNI (96)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Bsu36I (291)
Psp1406I (203) **HindIII (245)** EcoNI (287)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441)
NaeI (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560)
BstEII (555)
KasI (535) **AgeI (552)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTACCATGGAAGATACAAAGGAGTCTAACGTGAAGACATTTTG
1▶ M E D T K E S N V K T F C

Psp1406I (697)
601 CTCCAAGAATATCCTAGCCATCCTTGGCTTCTCTCTATCATAGCTGTGATAGCTTTGCTTGTGCTGGGGTTGACCCAGAACAAGCATTGCCAGAAAAC
13▶ S K N I L A I L G F S S I A V I A L L A V G L T Q N K A L P E N
701 GTTAAGTATGGGATTGTGCTGGATGCGGGTCTCTCACACAAGTTTATACATCTATAAGTGGCCAGCAGAAAAGGAGAATGACACAGGCGTGGTGCATC
47▶ V K Y G I V L D A G S S H T S L Y I Y K W P A E K E N D T G V V H
801 AAGTAGAAGAATGACGGGTTAAAGTCTGGAATCTCAAAATTTGTTGAGAAAGTAAATGAAATAGGCATTTACTGACTGATTGCATGGAAGAGCTAG
80▶ Q V E E C R V K G P G I S K F V Q K V N E I G I Y L T D C M E R A R

SphI (959)
901 GGAAGTGATTCCAAGTCCAGCACCAAGAGACACCCGTTTACCTGGGAGCCACGGCAGGCATGCGGTTGCTCAGGATGGAAGTGAAGATTGGCAGAC
113▶ E V I P R S Q H Q E T P V Y L G A T A G M R L L R M E S E E L A D

BsiBI (1098)
BsaBI (1098)
1001 AGGGTTCTGGATGTGGTGGAGAGGAGCCTCAGCAACTACCCCTTTGACTTCCAGGGTCCAGGATCATTACTGGCCAAGAGGAAGGTGCCTATGGCTGGA
147▶ R V L D V V E R S L S N Y P F D F Q G A R I I T G Q E E G A Y G W

NdeI (1160)
1101 TTAATCAACTATCTGCTGGGCAAATTCAGTCAGAAAACAAGTGGTTCAGCATAGTCCCATATGAAACCAATAATCAGGAAACCTTTGGAGCTTTGGA
180▶ I T I N Y L L G K F S Q K T R W F S I V P Y E T N N Q E T F G A L D
1201 CCTTGGGAGCCTACACAAGTCACTTTGTACCCAAAACAGACTATCGAGTCCCGAGATAATGCTCTGCAATTTCCGCTATGGCAAGGACTAC
213▶ L G G A S T Q V T F V P Q N Q T I E S P D N A L Q F R L Y G K D Y

SandI (1397)
1301 AATGTCTACACATAGCTTCTTGTGCTATGGGAAGGATCAGGCACTCTGGCAGAAACTGGCCAAGGACATTGAGTTGCAAGTAAATGAAATTCAGGG
247▶ N 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 A S N E I L R
1401 ACCCATGCTTTCATCCTGGATATAAGAAGTGTGAGCTGACCTTTACAGACCCCTGCACCAAGAGATTTGAGATGACTCTTCATTCCAGCA
280▶ D P C F H P G Y K K V V N V S D L Y K T P C T K R F E M T L P F Q Q
1501 GTTTGAAATCCAGGTTATTGAAACTATCAACAATGCCATCAAAGCATCTGGAGCTCTTCAACACCAGTTACTGCCCTTACTCCAGTGTGCCTTCAAT
313▶ F E I Q G I G N Y Q Q C H Q S I L E L F N T S Y C P Y S Q C A F N

XcmI (1620)
1601 GGGATTTTCTGCCACCCTCCAGGGGATTTTGGGGCATTTCAGCTTTTACTTTGTGATGAAGTTTTTAAACTTGACATCAGAGAAAGTCTCTCAGG
347▶ G I F L P P L Q G D F G A F S A F Y F V M K F L N L T S E K V S Q
1701 AAAAGGTGACTGAGATGATGAAAAAGTTCTGTGCTCAGCCTTGGGAGGAGATAAAAAATCTTACGCTGGAGTAAAGGAGAAGTACCTGAGTGAATACTG
380▶ E K V T E M M K K F C A Q P W E E I K T S Y A G V K E K Y L S E Y C

Asp718I (1807)
Acc65I (1807)
1801 CTTTTCTGGTACCTACATTCTCTCCCTCCTTCTGCAAGGCTATCATTTACAGCTGATTCTGGGAGCACATCCATTTTATTGGCAAGATCCAGGGCAGC
413▶ F S G T Y I L S L L L Q G Y H F T A D S W E H I H F I G K I Q G S

NgoMI (1903)
NaeI (1903)
1901 GACGCGGCTGGACTTTGGGCTACATGTGAACCTGACCAACATGATCCAGCTGAGCAACCATTGTCCACACCTCTCTCCACTCCACCTATGTCTTCC
447▶ D A G W T L G Y M L N L T N M I P A E Q P L S T P L S H S T Y V F
2001 TCATGTTTCTATTCTCCCTGGTCTTTTACAGTGGCCATCATAGGCTTGCTTATCTTTCACAAGCCTTCATATTTCTGGAAGATATGGTATAGCAAAA
480▶ L M V L F S L V L F T V A I I G L L I F H K P S Y F W K D M V •

NheI (2128)
2101 GCAGCTGAAATATGCTGGCTGGAGTGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCACAAGTGAATGCAGTGAACAAAA

HpaI (2266) MfeI (2277)
2201 TGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAACAAACAATTGCAATTCATTTTATGTTTC

EcoRI (2362)
2301 AGGTTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGAATTTCAAAAATACAGCATAGCAAACTTTAACCTCCA
2401 AATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGAGCCTCACCTTCTT
2501 TCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAAGTACTCTTCAATTTCTTATGTTTAAATGCACTGACCTCCACATTCCTTTTATAGTA

2601 **SspI (2601)** SwaI (2615)
AAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGT

2701 TTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGATGA
141 • N R T Y K L P I L

2801 GTTCCTCAATGGTGGTTTTGACCAGCTTGCATTTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGG
131 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

2901 GCTGACCACCTGATGGATCTGTCCACCTCATCAGATAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCA
98 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 N S V A S G

StuI (3040)
Eco147I (3040)

3001 ATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGA
64 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 T R I A A G V

BspHI (3190)

3101 CATGGTGTCTGTTGCTCATAGAGCATGGTGATCTTCTCAGTGGCGACTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTTCATGATGGC
31 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

VspI (3248)
AseI (3248)

3201 CCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCAC
3301 TAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCCTTGA

SpeI (3403)

3401 TTTACTAGTCAAACAACCTCCATTGACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCAGGCCATTGATGTACTGCCAA

SnaBI (3531)
Eco105I (3531)

3500 AACCGCATCATCATGGTAATAGCGATGACTAATACGTAGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGGCATAATGCCAGGCGGGCC

NdeI (3636)

3600 ATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACG
3700 TCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATATTGACGTCAATGGGGGGGGTCTTGGCGGTCAGCCAGGCGGGCCATTACC

PstI (3815)
SdaI (3814)**PacI (3822)** **BspLU11I (3832)**

3800 GTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCTTGTGGCGTTTTTC
3898 CATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTG
3998 GAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGTTTCTCATAGCTCACG

ApaLI (4146)

4098 CTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTAT
4198 CGTCTTGAGTCCAACCCGGTAAGACACGACTTATGCCACTGGCAGCAGCACTGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGT
4298 TCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTC
4398 TTGATCCGGCAAACCAACCCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATC

EagI (4582)
PacI (4562) **SwaI (4571)** **NotI (4581)**

4498 TTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGATTTTGGTACGTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAAAT
4598 ATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAAA
4698 TAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA