



PvuI (7)
SgfI (6)
EcoNI (96)

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
HindIII (245)
EcoNI (287)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACCGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

NgoMIV (441)

BstEII (555)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCCCATGGTGCATTTTTGGATAAACCCAAAAGTAAAAAGCA

AgeI (552) NcoI (560)

601 CAATGCTCACGGTCTGGGAATGGTCTGCGTTATGGCCTGAGCAGTATGCAAGGATGGAGAGTAGAAATGGAAGATGCACACACAGCTGTTGTGGGTATT

13▶ N A H G A G N G L R Y G L S S M Q G W R V E M E D A H T A V V G I

BamHI (751)

701 CCTCACGGCTTGACAACCTGGTCTTTTTGTCAGTTTATGACGGTCATGCTGGATCCCGAGTGGCAAATTACTGTTCAACACATCTATTAGAACACATCA

47▶ P H G L D N W S F F A V Y D G H A G S R V A N Y C S T H L L E H I

XhoI (844)

801 CCACCAATGAAGACTTCAGGGCAGTGACAAATCAGGCTCTGCTCTCGAGCCTTCTAGTAGAAAGTGTGAAGACTGGTATCAGGACTGGCTTTTTGAAAAT

80▶ T T N E D F R A A D K S G S A L E P S V E S V K T G I R T G F L K I

BsrBI (948) **BspLU11I (989)**

901 TGATGAATATATGCGTAACTTCTCAGACCTGAGGAACGGGATGGACAGGAGCGGCTCGACTGCAGTGGGCGTGATGGTCTCCCTACACACATGTACTTC

113▶ D E Y M R N F S D L R N G M D R S G S T A V G V M V S P T H M Y F

XhoI (1016)

1001 ATCAACTGTGGTACTCTCGAGCTGTTCTGTGTAGGAACGGACAGGTCTGCTTTTCTACCCAGGATACAAAACCTTGAATCCAGTGGAGAAGGAGCGCA

147▶ I N C G D S R A V L C R N G Q V C F S T Q D H K P C N P V E K E R

1101 TCCAAAACGCAGGAGGCAGTGTGATGATCCAGCGTGTGAACGGCTCACTAGCAGTGTCTCGGGCTCTGGGGACTATGACTACAAGTGTGGATGGCAA

180▶ I Q N A G G S V M I Q R V N G S L A V S R A L G D Y D Y K C V D G K

Bsp120I (1200)

1201 GGGCCCTACAGAGCAGCTTGTTCCTCCAGAGCCTGAGGTTTATGAGATTGTGAGAGCAGAAGAGGATGAGTTTGTGCTTGGCCTGTGATGGGATCTGG

213▶ G P T E Q L V S P E P E V Y E I V R A E E D E F V V L A C D G I W

1301 GATGTGATGAGCAATGAGGAGCTCTGTGAGTTTGTAAAGTCTAGGCTTGTGAGGTGTGCGACGACCTGGAGAATGTGTGCAATTGGGTAGTGGACACTTGT

247▶ D V M S N E E L C E F V K S R L E V S D D L E N V C N W V V D T C

1401 TACATAAGGGAAGTGCAGATAACATGAGTGTGTATTAGTTTGTCTTTCAAATGCCCCAAAGTCTCAGAGGAAGCCGTGAAGAGAGATTGAGAGTTGGA

280▶ L H K G S R D N M S V V L V C F S N A P K V S E E A V K R D S E L D

FspI (1577)

1501 TAAGCACTTGAATCACGGGTTGAAGAAATCATGCAGAAGTCTGGGGAGGAAGGAATGCCTGATCTTGCCCATGTGATGCGCATTTTGTCTGCAGAAAAT

313▶ K H L E S R V E E I M Q K S G E E G M P D L A H V M R I L S A E N

XmaI (1615)

1601 ATCCCGAATTTACCTCCCGGGGAGGTCTCGTGGCAAGCGCCATGTTATTGAAGCTGTTTATAGTAGACTTAATCCACACAAAGACAATGATGGGGCCT

347▶ I P N L P P G G G L A G K R H V I E A V Y S R L N P H K D N D G A

HpaI (1762)

1701 CCGATGAAGCAGAGGAAGTGGATCACAGGGGAAATTTGGTGAAGCTCTCAGGCAAATGAGAGTTAACCATAGGGGAAACTACCGACAGCTGCTGGAGGA

380▶ S D E A E E G S Q G K L V E A L R Q M R V N H R G N Y R Q L L E E

SpeI (1807) NheI (1818) **BstBI (1875)**

1801 GATGCTGACTAGTTACAGGCTAGCTAAAAGTAGAGGGAGAAGAGAGCCCGGCTGACCCAGCGGCTGCAGCTGCTTCTTGAACAGTGTGGTGGAAACCA

413▶ M L T S Y R L A K V E G E E S P A D P A A A A A S S N S D G G N P

AvrII (1996)

1901 GTGGCAATGCAGGAGAGACTGAGGGTGGTCTGCTGGCCTAGACAGCCGTAATGAAGATGCAGGGACAAAGAGGAGTGTGAAAATATATGACCTA

447▶ V A M Q E R D T E G G P A G L D S R N E D A G T K R S A E N I •

MscI (2008)

2001 GGACTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGC

HpaI (2140)

2101 TATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAAACAACAACATTCATTCTTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTT

EcoRI (2236)

2201 TTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTT

2301 CTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTTTGCAGCCTCACCTCTTTCATGGAGTTAAGATATAGTGTATT

2401 **SapI (2418)** **SspI (2475)** **SwaI (2489)**
TTCCAAGTTTGAAGTACTCTTCATTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCTTTTATGATAAAATATTCAGAAATAATTTAAATACA

2501 TCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAG

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

2701 **BstXI (2779)**
TTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCA
122 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 I S R D V

2801 CCTCATCAGAGTAGGGGTGCCTGACAGCCCAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGT
89 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

2901 **StuI (2914)**
GACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGTCTCATAGAGC
56 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 N D E Y L

3001 **XmnI (3056)**
ATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACT
22 M T I K E T A V E V L E L D Q Q S I N F T K M

3101 **AseI (3122)**
ATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCT

3201 **SpeI (3277)**
CCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCCATT
3301 GACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATG

3401 **SnaBI (3405)**
ACTAATACGTAGATGTACTGCCAAGTAGAAAGTCCATAAGTTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGG

3501 **NdeI (3510)**
GCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGAGTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTAC

3601 **PaeI (3696)** **SdaI (3688)**
TATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAA

3701 **BspLU11I (3706)**
TAAGAACATGTGAGCAAAAGCCAGCAAAAGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCA
3801 CAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCG
3901 ACCCTGCCGTTACCGGATACCTGTCCGCTTCTCCCTTCGGAAGCGTGGCGCTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGC

4001 **ApaLI (4020)**
TTCGCTCAAGCTGGGCTGTGTGCACGAACCCCCGTTGAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGA
4101 CTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTAC
4201 ACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTA
4301 GCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAA

4401 **EagI (4456)** **PaeI (4436)** **SwaI (4445)** **NotI (4455)**
CGAAAACCTCACGTTAAGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAATATCTTTATTTTTCATTACATCTGTGTGTG

4501 GTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGC
4601 CAGAACATTTCTCTATCGAA