



PvuI (7)
SgfI (6)
MfeI (82) **EcoNI (96)**

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGGGGTAACCTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Bsu36I (291)
Psp1406I (203) **HindIII (245)** **EcoNI (287)**

201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCCGCCGCCCTACCTGAGGCC
 301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441)
NaeI (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560)
BstEII (555)
KasI (535) **AgeI (552)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATTGGCGGATCTAAAGAGATATTGGTGTGACTGGGCTCT
 601 AAGTCCACTCTCTGAAAACCAAGAATGAGTCAGCAGCAGATATTTCTCCATTCTTTGGATTCTCTCTCTTCTACTCATGGGGCTCGGAGCCTCT
 13▶ S P L S E N P R M S Q Q Q I F S P I L W I P L L F L L M G L G A S

EcoRV (723)

701 GAAAAGGAAACACCTCCAACAGTGATATCAGGGATGCTAGGGGTTCTGTGACTTTCTCCTAAACATCTCAAAGGATGCAGAGATTGAGCATATCACCT
 47▶ G K E T P P T V I S G M L G G S V T F S L N I S K D A E I E H I T
 801 GGAATTGCCCCAAAGGCTCTTGTCTTAGTATCTACAAAAAGATATAACTATTCTGGACAAAGGATATAATGGCAGACTCAAAGTCAAGGATGG
 80▶ W N C P P K A L A L V S Y K K D I T I L D K G Y N G R L K V S E D G

BsrGI (908) **BamHI (940)**

901 CTACTCCTTGATCATGAGCAACCTAACCAAGAGTGATTACAGGATCCTATTATGTCTCAGATAAACCAAAAGAATGTTACCTCACCACAAATAAAGAGTTC
 113▶ Y S L Y M S N L T K S D S G S Y Y A Q I N Q K N V T L T T N K E F
 1001 AACTGCACATCTATGAGAAGCTCCAGAAGCCTCAGATCATCGTGAATCTGTGACCCATCCGATACTGATTCTGCACCTTACCCTAATCTGCACGT
 147▶ T L H I Y E K L Q K P Q I I V E S V T P S D T D S C T F T L I C T

Tth111I (1114) **Bsu36I (1179)**

1101 TAAAGGGGACAAAGGACAGTGTCCAGTACAGCTGGACCCGAGAGGACACCCATTTAAATACATACGATGGAAGCCACACCCCTCAGGGTTTCCCAGAGTGT
 180▶ V K G T K D S V Q Y S W T R E D T H L N T Y D G S H T L R V S Q S V
 1201 CTGTGACCCGACCTACCTATACCTGCAAAGCCTGGAATCCAGTCAGCAAAAACAGCTCCCAACCTGTCCGATCTGGAATTTGACACAGGAGCCTCC
 213▶ C D P D L P Y T C K A W N P V S Q N S S Q P V R I W Q F C T G A S

SfiI (1374)

1301 AGAAGAAAAACAGCAGCGGGGAAGACTGTGGTAGGAATCCTGGGAGAGCCAGTGACCTGCCCTTGAATTTGGGGCCACTCGGGCCACAAAGAATGTTG
 247▶ R R K T A A G K T V V G I L G E P V T L P L E F R A T R A T K N V
 1401 TCTGGGTGTTAAACAGTCGGTTATCAGCAAGAACGGAGAGGAGCAGCAACAGCGGATTCTCGCCGTAAGCCAAAGGTTCTGAAGAAAGGAGGGTGAG
 280▶ V W V F N T S V I S Q E R R G A A T A D S R R K P K G S E E R R V R

StuI (1583)
Eco147I (1583)
Bsp120I (1554)

1501 GACCTCTGACCAGGACCAATCCCTGAAGATCAGCCAGCTGAAGATGGAGGACGCGGGCCCTACCATTGCCTATGTGTGCTCAGAGGCCTCCCGAGACCCC
 313▶ T S D Q D Q S L K I S Q L K M E D A G P Y H A Y V C S E A S R D P

ApaLI (1666)

1601 AGTGTGAGACATTTACCTTGCTGTCTACAAGAGACTGGAGAAGCCAGTGTACCAACAGTCTCTGTGCACATGATGAACGGAATCTGCAAGTTGTGCC
 347▶ S V R H F T L L V Y K R L E K P S V T N S P V H M M N G I C K V V
 1701 TGACCTGTTCAAGTGGACGGTGGTGGAAACAATGTGACATACATGGATGCCTCTACAAAACAAGCTGTGATGTTCCAAAGGGAGTCCGACCTCAATGT
 380▶ L T C S V D G G G N N V T Y T W M P L Q N K A V M S Q G K S H L N V

XcmI (1872)

1801 CTCCTGGGAAAGTGGTGAACACCTGCCAACTTACATGCACAGCCATAACCCTGTGACCAACAGCTCCAGCCAGTTTTCTTCTGGACCATCTGTTCA
 413▶ S W E S G E H L P N F T C T A H N P V S N S S S Q F S S G T I C S
 1901 GGCCTGAGAGAAACAAGAGGTTTTGGCTCCTGCTCCTCTGTTTTGCTTGTGATGCTATTGGCGTTACTTCATTTTGGAAAAAGAGCAGT
 447▶ G P E R N K R F W L L L L L V L L L L M L I G G Y F I L R K K K Q

NcoI (2067)

2001 GTTCGTCTTTGGCCACCAGGTACAGACAAGCGGAGTCCCAGCTGAAATACCAGAAAACCCCAACTGGCCATGGACAATTTTCTGTGCTCTCCCAACGGTA
 480▶ C S S L A T R Y R Q A E V P A E I P E T P T G H G Q F S V L S Q R Y

BspLU11I (2111)

2101 TGAGAAACTAGACATGTCTGCTAAGACCACCAGGCATCAGCCTACACCACCTCAGATACCAGCTCTGAGAGCAGCGCAACAACAGAAGAGGATGACGAA
 513▶ E K L D M S A K T T R H Q P T P T S D T S S E S S A T T E E D D E

BstEII (2250)
EcoRI (2207) **Tth111I (2245)**

2201 AAGACCAGAATTCACAGCACTGCTAATAGTAGAAATCAGGTGTATGACTTGGTCACCCATCAGGACATTGCACATGCCTTGGCCTATGAGGGGCAAGTAG
 547▶ K T R I H S T A N S R N Q V Y D L V T H Q D I A H A L A Y E G Q V

NdeI (2318)

2301 AATATGAAGCAATCACTCCATATGATAAAGTGGATGAGTCTATGGATGAAGAGGACATGGCATATATACAAGTGTCCCTGAATGTGCAGGGAGAGACCCC
 580▶ E Y E A I T P Y D K V D E S M D E E D M A Y I Q V S L N V Q G E T P
 2401 ACTTCTCAGAAGAAAGAAGACTCAAATACAATCTACTGCTGTGAGAAAGCCTAAAAGACGGCACAAACACCACAGCAAGACGCTGAGTCTCCTGAA
 613▶ L P Q K K E D S N T I Y C S V Q K P K T A Q T P Q Q D A E S P E

NheI (2548)

2501 ACCCTACCTATGAAAATTTACCTGAAGGGAAAAAGCGGCTGCTACTTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAA
 647▶ T P T Y E N F T •

HpaI (2686) MfeI (2697)

2601 CTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAACAAACAACA

EcoRI (2782)

2701 TTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCA

2801 TAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCT

2901 GTTTGCAGCCTCACCTTCTTTCATGAGTAAAGATATAGTGATTTTCCCAAGGTTGAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCT

SspI (3021)

3001 CCCACATTCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGC

3101 CCTTCATAATATCCCCAGTTTGTAGTGGACTTAGGGAACAAAGAACCTTAAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCT

141 • N R

SacI (3296)

3201 GGTGACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGC

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 (3325)

3301 TCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCC

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 (3460)

Eco147I (3460)

3401 CGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCAGACAGTACCTGCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTT

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

3501 GGTCTGATGGCCGCCGACATGGTGTGTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGTGAGAGATG

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

BspHI (3610)

XmnI (3602)

VspI (3668)

AseI (3668)

3601 TTGAAGTCTTATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTC

4 N F T K M

SacI (3725)

3701 CAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGAC

SpeI (3823)

3801 ATTTTGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCAC

SnaBI (3951)

Eco105I (3951)

3900 GCCCATTGATGACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGT

NdeI (4056)

4000 GGCATAATGCCAGGCGGGCCATTTACCGTCAATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGTGACTGCCAAGTGGGCGAGTTTACCGT

4100 AAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTC

PstI (4235)

SdaI (4234) PacI (4242)

BspLU11I (4252)

4200 AGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAA TAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGAACCGTAAAAAGG

4298 CCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAG

4398 ATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTG

ApaLI (4566)

4498 GCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCGCT

4598 GCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTA

4698 TGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGTGAAGCCAGTTACCTTC

4798 GGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGAT

PacI (4982)

4898 CTCAAGAAGATCCTTTGATCTTTTCTACGGGCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAA

EagI (5002)

NotI (5001)

4998 ATC AGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAAACAAACGA

5098 AACAAAACAACTAGCAAAATAGGCTGTCCCGAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA