



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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGTGGCGGGGTAAGTGGAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
HindIII (245)
Bsu36I (291)

201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCCGCCCGCCCTACCTGAGGCC
 301 GCCATCCACGCCGTTGAGTGCCTTCTGCCCTCCCGCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

KasI (535)
AgeI (552)
SphI (560)
Psp1406I (571)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTCAGCATGCCCTCAACGTTAGCTTACCAACAGGAACATGA
1▶ M P L N V S F T N R N Y D

KasI (690)

601 CCTCGACTACGACTCGGTGCAGCCGATTTTCTACTGCGACGAGGAGGAGAATCTTACCAGCAGCAGCAGAGCGAGCTGCAGCCCCGGCGCCAGC
 13▶ L D Y D S V Q P Y F Y C D E E E N F Y Q Q Q Q Q S E L Q P P A P S

XmnI (711)
BsrBI (756)

701 GAGGATATCTGGAAGAAATTCGAGCTGCTGCCACCCCGCCCTGTCCCTAGCCGCCGCTCGGGCTCTGCTGCCCTCTACGTTGGGGTTCACACCT
 47▶ E D I W K K F E L L P T P P L S P S R R S G L C S P S Y V A V T P

PvuII (853)
BstEII (864)

801 TCTCCCTTCGGGAGACAACGACGGCGTGGCGGGAGCTTCTCCACGGCCGACAGCTGGAGATGGTGACCGAGCTGTGGGAGGAGACATGGTGAACCA
 80▶ F S L R G D N D G G G S F S T A D Q L E M V T E L L G G D M V N Q

BsrBI (966)

901 GAGTTTCTATGCGACCCGGACGACGAGACCTTATCAAAAACATCATCATCCAGGACTGTATGTGGAGCGGCTTCTCGGCCGCCCAAGCTCGTCTCA
 113▶ S F I C D P D D E T F I K N I I I Q D C M W S G F S A A A K L V S

BssHIII (1024)
SacII (1056)
SdaI (1092)

1001 GAGAAGCTGGCCTCTACCAGGCTGCGCGAAAGACAGCGCCGAGCCCGCCCGCCGCGCCGACAGCGTCTGCTCCACCTCCAGCTTGTACCTGCAGG
 147▶ E K L A S Y Q A A R K D S G S P N P A R G H S V C S T S S L Y L Q

BbsI (1141)

1101 ATCTGAGCGCCGCGCCTCAGAGTGCATCGACCCCTCGGTGGTCTTCCCTACCTCTCAACGACAGCAGCTCGCCCAAGTCTGCGCCTCGCAAGACTC
 180▶ D L S A A A S E C I D P S V V F P Y P L N D S S S P K S C A S Q D S

Tth111I (1239)

1201 CAGCGCTTCTCTCCGCTCTCGGATTCTGCTCTCTCGACGGAGTCTCCCGCAGGGCAGCCCGAGCCCTGGTGTCCATGAGGAGACACCGCC
 213▶ S A F S P S S D S L L S S T E S S P Q G S P E P L V L H E E T P P

ClaI (1345)

1301 ACCACCAGCAGGACTCTGAGGAGAAACAAGAATGAGGAAGAAATCGATGTTGTTTGTGGAAAAGAGGCAGGCTCTGGCAAAAGTCAAGTCTG
 247▶ T T S S D S E E E Q E D E E E I D V V S V E K R Q A P G K R S E S

Tth111I (1543)

1401 GATCACCTTCTGTGGAGCCACAGCAAACCTCTCACAGCCACTGGTCTCAAGAGGTGCCACGTCTCCACACATCAGCACAACACTACGAGCGCTCC
 280▶ G S P S A G G H S K P P H S P L V L K R C H V S T H Q H N Y A A P P

Tth111I (1543)

1501 CTCCACTCGGAAGGACTATCCTGCTGCCAAGAGGGTCAAGTTGGACAGTGTGACAGTCTGAGACAGATCAGCAACAACCGAAAATGCACCAGCCCCAGG
 313▶ S T R K D Y P A A K R V K L D S V R V L R Q I S N N R K C T S P R

Tth111I (1543)

1601 TCCTCGGACACCGAGGAGAATGTCAAGAGGCGAACACACAACGCTTTGGAGCGCCAGAGGAGGAACGAGCTAAAACGGAGCTTTTTTGCCTGCGTGACC
 347▶ S S D T E E N V K R R T H N V L E R Q R R N E L K R S F F A L R D

Tth111I (1543)

1701 AGATCCCGGAGTTGGAAAACAATGAAAAGGCCCAAGGTAGTTATCCTTAAAAAGCCACAGCATAACCTGTCCGTCGAAGCAGAGGAGCAAAAGCT
 380▶ Q I P E L E N N E K A P K V V I L K K A T A Y I L S V Q A E E Q K L

MscI (1893)

NheI (1887)

1801 CATTCTGAAGAGGACTTGTTCGGAAACGACGAGAACAGTTGAAACACAAACTTGAACAGCTACGGAACCTTGTGCGTAAGGAAAGCTAGCTGGCCAG
 413▶ I S E E D L L R K R E Q L K H K L E Q L R N S C A •

1901 ACATGATAAGATACATTGATGAGTTGGACAAACCACAACAGTGAAGTGAAGGAAATGCTTTATTGTGAAATTTGTGATGCTATTGCTTTATTTGT

HpaI (2025)
MfeI (2036)

2001 AACCATTAAGCTGCAATAAACAAGTTAAACAACAATTGCATTATTTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGTTTTTAAAGCAAGTAA

EcoRI (2121)

2101 AACCTCTACAAATGTTGATGGAATTCTAAAATACAGCATAGCAAACTTAACTCCAATCAAGCCTACTTGAATCCTTTTCTGAGGGATGAATAA
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2201 GGCATAGGCATCAGGGCTGTTGCCAATGTCATTAGCTGTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTCCCAAGGTTTGAA

SspI (2360)
SwaI (2374)

2301 CTAGCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTGAGAAATAATTTAAATACATCATTGCAATGAAAA
 2401 TAAATGTTTTTATTAGGAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAA

2501 ATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTTCATCTCA
141▶
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N R T Y K L P I L E E I T T K V L K G N M E

2601 ATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGG
117 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 E D S Y P

2701 GGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTA
84 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 R G I Y

2801 GGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCA
51 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 T I K E

SacI (2635) BstXI (2664) StuI (2799)

2901 GTGGGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTAT
17 T A V E V L E L D Q Q S I N F T K M

BspHI (2949) BbsI (2945) XmnI (2941)

3001 GCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCC
AseI (3007) SacI (3064)

3101 TACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTG
SpeI (3162)

3201 GAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATG
SnaBI (3290)

3301 TACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATAT
NdeI (3395)

3401 GATACACTTGATGTACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGT

3501 CATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCCCTGCAGGTTAATTAAAGAACATGTGAG
SdaI (3573) PacI (3581) BspLU11I (3591)

3601 CAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAATAATCGACGCTC

3701 AAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCTGCCGTTACC

3801 GGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTCCGCTCCAAGCTGG

ApaLI (3905)

3901 GCTGTGTGCACGAACCCCGTTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAAACCCGTAAGACACGACTTATCGCCACTGGC

4001 AGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTA

4101 TTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACACCCTGGTAGCGGTGTTTTTTTTG

4201 TTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTA

PacI (4321) SwaI (4330) NotI (4340)

4301 AGGGATTTGGTTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAAT

4401 CGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTA

4501 TCGAA