



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

101 GAGAAAGTGGCGGGGTAAGTGGAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) **Bsu36I (291)**
Psp1406I (203) PvuII (239) EcoNI (287)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCAGAGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441) **NaeI (441)**
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

SphI (560) **AgeI (552)** Psp1406I (571)
501 TCTGTTTGTGCGCGTTACAGATCCAAGCTGTGACCGGGCCTACCTGAGATCACCGGTGAGCATGCCCCCTCAACGTTAGCTTACCAACAGGAATATGA

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

EcoRV (703) **XmnI (711)** **BsrBI (756)**
701 GAGGATATCTGGAAGAAATTCGAGCTGCTGCCACCCCGCCCTGTCCCTAGCCGCGCTCCGGCTCTGCTCGCCCTCTACGTTGCGGTACACCCCT

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

801 TCTCCCTTGGGGAGACAACGACGGCGGTGGCGGGAGCTTCTCCACGGCCGACAGCTGGAGATGGTACCGAGCTGCTGGGAGGAGACATGGTGAACCA

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

901 GAGTTTCTATGCGACCCGGACGACGAGACCTTCATCAAAAACATCATCATCCAGGACTGTATGTGGAGCGGCTTCTCGGCCGCCCAAGCTCGTCTCA

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 GAGAAGCTGGCCTCTACCAGCTGCGCGAAAGACAGCGCCGAGCCCGCCCGCCGCGCCACAGCGTCTGCTCCACCTCCAGCTTGTACCTGCAGG

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

1101 ATCTGAGCGCCGCGCTCAGAGTGCATCGACCCCTCGGTGGTCTTCCCTACCCTCTCAACGACAGCAGCTCGCCCAAGTCTGCGCTCGCAAGACTC

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

1201 CAGCGCTTCTCTCCGCTCTCGGATTCTGCTCTCTCGACGGAGTCTCCCGCAGGGCAGCCCGAGCCCTGGTCTCCATGAGGAGACACCGCC

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 ACCACCAGCAGGACTCTGAGGAGGAACAAGAAGATGAGGAAGAAATCGATGTTGTTTCTGTGAAAAGAGGCAGGCTCTGGAAAAGTCCAGAGTCTG

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

1401 GATCACCTTCTGTGGAGCCACAGCAAACCTCCTCACAGCCACTGGTCTCAAGAGGTGCCACGTCTCCACACATCAGCACAACACGACGCGCTCC

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

1501 CTCCACTCGGAAGGACTATCCTGCTGCCAAGAGGGTCAAGTTGGACAGTGTGAGAGTCTGAGACAGATCAGCAACAACCGAAAATGCACCAGCCCGAGG

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

1601 TCCTCGGACACCGAGGAGAATGTCAAGAGGCGAACACACAACGCTTGGAGCGCCAGAGGAGGAACGAGCTAAACCGAGCTTTTTTGCCTGCGTGACC

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

1701 AGATCCCGAGTTGAAAACAATGAAAAGCCCAAGGTAGTTATCCTTAAAAAGCCACAGCATACATCCTGTCGTCGAAGCAGAGGAGCAAAAAGCT

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

BspEI (1882)
1801 CATTCTGAAGAGGACTTGTGCGGAAACGACGAGAACAGTTGAAACACAACCTTGAACAGCTACGGAACCTTGTGCGGAGTCCGGAGGGGTGGCTCT

413▶ I S E E D L L R K R R E Q L L K H K L E Q L R N S C A E S G G G G S

BamHI (1939) **SacII (1935)** **NdeI (1979)**
1901 CCTGGCAGACGTCGTCGCGCAGACGCAGGCGCCCGCGGATCCATCCCTATGATGTGCCAGACTATGCTGGCTATCCATATGATGTTCTGATTATG

447▶ P G R R R R R R R R R R R G S Y P Y D V P D Y A G Y P Y D V P D Y

MscI (2042) **NheI (2036)**
2001 CTGGATACCTTATGATGTGCCAGACTATGCCTAAAGCTAGTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCAACTAGAATGCAGT

480▶ A G Y P Y D V P D Y A •

HpaI (2174) MfeI (2185)
2101 GAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAAATTGCATTCTTT

EcoRI (2270)
2201 TATGTTTCAGTTTCAGGGGAGGTGTGGAGGTTTTTAAAGCAAGTAAAACCTTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTT

2301 AACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTC

2401 ACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGGTTTGAAGTACTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCT

SspI (2509) **Swal (2523)**
2501 TTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAT

2601 CCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAG
141 • N R T Y K L
SacI (2784)

2701 GGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATG
134 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 E R C M
BstXI (2813)

2801 CCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAG
100 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 N S V A
StuI (2948)
Eco147I (2948)

2901 CAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGC
67 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 T R I A
XmnI (3090)
BspHI (3098)

3001 CGCCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTC
34 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 N F T K
VspI (3156)
AseI (3156)

3101 ATGATGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGA
0 M
SacI (3213)

3201 CGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGAAAGT
SpeI (3311)

3301 CCCGTTGATTTACTAGTCAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGTATCCACGCCATTGATGT
SnaBI (3439)
Eco105I (3439)

3400 ACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCACTGACTGGGCATAATGCCA
NdeI (3544)

3500 GGGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGCCATATGATACACTTGATGACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACC
3600 CATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGC
SdaI (3722) PacI (3730) BspLU11I (3740)

3700 CATTACCGTAAGTTATGTAACGCCTG C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G A A A A G G C C A G A A C C G T A A A A A G G C C G T T G C T G G
3798 CGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTT
3898 TCCCCCTGGAAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCAT
ApaLI (4054)

3998 AGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGAGCCGACCGCTGCGCCTTATCCG
4098 GTAACATCGTCTTGAGTCAACCCGGTAAGACACGACTTATCGCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGC
4198 TACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTT
4298 GGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATC
PacI (4470) SmaI (4479) NotI (4489)

4398 CTTTGATCTTTTCTACGGGCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCG
4498 AATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACATAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAAC
4598 TAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTATCGAA