



PvuI (7)
SgfI (6) 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82)
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGTGAAGCTTCGAGGGCTCGCATCTCTCTTTCACGCGCCCGCCCTACCTGAGGCC
HindIII (245)
301 GCCATCCACGCGCGTTGAGTCGCGTTTCTGCCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGCTCCGGACACCATGGACCCTCTGGAGACCCCTATCAAGGATGG
NeoI (566)
BspEI (558) 1 M D P L E T P I K D G

601 CATCCTTACCAGCAGCATGTCAAGTTTGGCAAGAAGTGTGGCGGAAGTGTGGGCTCTGCTGTATGCAGGAGGCCATCAGGCGTGGCAGCGCTGGAG
BstAPI (629) 11 I L Y Q Q H V K F G K K C W R K V W A L L Y A G G P S G V A R L E
701 AGCTGGGAGGTCCGGGATGGTGGCTGGGAGCAGCGGGTGACAGTGGCAGGGCCTGGCCGGCAGGGGAGCGACGGTTCATCCGCTGGCTGACTGTG
45 S W E V R D G G L G A A G D R S A G P G R R G E R R V I R L A D C

801 TGTCCGTGCTGCCGGCTGACGGCGAGAGTGCCTCCCGGGACACCGGTGCCTTCTGCTCACCACCACCGAGCGAAGCCATCTACTGGCTGCTCAGCACCG
SgrAI (840)
XmaI (833) 78 V S V L P A D G E S C P R D T G A F L L T T T E R S H L L A A Q H R
AgeI (841)

901 CCAGCCTGGATGGGCCCATCTGCCAGCTGGCCTTCCCGGGACAGGGGAGGCTCCTCAGGATCCACAGATGCCAGTCTCCAAGAGGGGCTGGTC
XmaI (936) 111 Q A W M G P I C Q L A F P G T G E A S S G S T D A Q S P K R G L V
BamHI (961)

1001 CCCATGGAGAAAACCTCATCTACTCTCTGCGAGGAAGTGGCGAGTTTCCCGTGGTGGTGCAGAGGACTGAGGCCACCACCGCTGCCAGCTGAAGG
NeoI (1001) 145 P M E E N S I Y S S W Q E V G E F P V V V Q R T E A A T R C Q L K
FspI (1190)

1101 GGCCGGCCCTGCTGGTGTGGGCCAGACGCCATCCAGCTGAGGGAGGCCAAGGGCACCCAGGCCCTCTACAGCTGGCCCTACCACTTCTGCGCAAGTT
178 G P A L L V L G P D A I Q L R E A K G T Q A L Y S W P Y H F L R K F

1201 CGGCTCCGACAAGGGCGTGTCTCTTTGAGGCCGGCGTCTGCTGCCACTCGGGTGGAGGCGCTTTTGCCTTACGACCCCTGTGCCCTGACCTGTGC
EagI (1233) 211 G S D K G V F S F E A G R R C H S G E G L F A F S T P C A P D L C

1301 AGGGCTGTGGCCGGGCCATCGCCGCCAGCGGGAGCGGCTGCCAGAGCTGACCAGGCCCCAGCCCTGCCCCCTGCCACGGGCCACTCTGTCCCTCCC
BsrBI (1333) 245 R A V A G A I A R Q R E R L P E L T R P Q P C P L P R A T S L P S
1401 TGGACACCCCGGAGAGTTCGGGAGATGCCACCAGGACCTGAGCCACCCACGTCCAGGAAAATGCACCTGGCCGAGCCCGGACCCAGAGCCTGCCGCT
278 L D T P G E L R E M P P G P E P P T S R K M H L A E P G P Q S L P L
1501 ACTGCTAGGCCCGGAGCCCAACGATCTGGCTCGGGCTCTACGTTTCAAGTGTGCAAGCTGCCAGTGGGCCCCAGGCAATGAGCACCTCTATGAGAAN
311 L L G P E P N D L A S G L Y A S V C K R A S G P P G N E H L Y E N
1601 CTGTGTGTGCTGGAGGCCAGCCACGCTGCACGGTGGGAACCTGAGCCGACAGGGCCCGCAGCCGAGCCCAACAGTCCCATCTACCACA
345 L C V L E A S P T L H G G E P E P H E G P G S R S P T T S P I Y H
1701 ACGCCAGGACTTGAGCTGGCCCGCCCGCCCAACGACAGTACCTGGAGGCCAGTACCGGGCGGCTGTGGAGCTGGATCAGGTGGAGGGCACAGGCCG
378 N G Q D L S W P G P A N D S T L E A Q Y R R L L E L D Q V E G T G R

1801 CCCTGACCTCAGGCAGGTTTCAAGGCCAAGCTGGTACCCTGCTGAGTCTGAGCGGAGGAAGGGCCAGCCCTTGTGACCGCCCTGAACGCCACG
BstEII (1833) 411 P D P Q A G F K A K L V T L L S R E R R K G P A P C D R P •
BsrBI (1852)

1901 AGAGTGGTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTG
MscI (1914)
NheI (1908)

2001 TGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAACAAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGG
HpaI (2046) **MfeI (2057)**

2101 GAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCAAAATACAGCATAGCAAACTTTAACTCCAATCAAGCCTCTACTTGAAT
EcoRI (2142)
2201 CCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAG

2301 TGTATTTTCCAAGGTTTGAAGTACTGCTCTTCAATTTCTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTATGAAAAATTCAGAAATAATTTA
SapI (2324) **SspI (2381)** **SwaI (2395)**

2401 AATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGA
2501 ACAAAGGAACCTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTACTTGGGGGATGAGTTCTCAATGGTGGTTTTG
141 • N R T Y K L P I L E E I T T K
SacI (2656)

2601 ACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATC
124 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 S V V R I S R

2701 TGCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACA
91 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 I A I A E A C
2801 GACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCCGACATGGTGTCTTGTCTCA
58 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 H H K N D E

BbsI (2966)
XmnI (2962)

2901 TAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCCTATAGTGAGTCGTAT
24 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

AseI (3028) SacI (3085)

3001 TATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATAT

SpeI (3183)

3101 AGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTGATTACTAGTCAAAAACAACT

3201 CCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATA

SnaBI (3311)

3301 GCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAA

NdeI (3416)

3401 TAGGGGGCGTACTTGGCATATGATACACTTGTACTGCAAGTGGGCGAGTTTACCCTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGG

PstI (3595)
SdaI (3594)

3501 CGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCA

PacI (3602) BspLU11I (3612)

3601 GGTTAATTAAGAACATGTGAGCAAAAGCCAGCAAAAGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGA

3701 GCATCACAAAATCGACGCTCAAGTCAGAGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCGCTCTCCT

3801 GTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTCTCCCTTCCGGAAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGT

ApaLI (3926)

3901 AGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCGACCCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAG

4001 ACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTAC

4101 GGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCAGG

4201 CTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCA

EagI (4362)
PacI (4342) SmaI (4351) NotI (4361)

4301 GTGGAACGAAAACCTCACGTTAAGGGATTTTGGTATGGCTAGTTAATTAACATTTAAATCAGCGCGCCCAATAAAATATCTTTATTTTATTACATCTGT

4401 GTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGAAGTGC

4501 AGGTGCCAGAACATTTCTCTATCGAA