



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTTCACGCGCCCGCCCTACCTGAGGCC **HindIII (245)**

301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGCTTTTGTTCGTTT **NgoMIV (441)**

501 TCTGTTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTTCATGAACAGTCCATCCAGTGGCTCCACCCACCCCG **BspHI (560)**
AgeI (552) 1 M N Q S I P V A P T P P R

601 CCGCGTGC GGCTGAAGCCCTGGCTGGTGGCCAGGTGAACAGCTGCCAGTACCCAGGGCTTCAATGGGTCAACGGGAAAAAGAAATTATTCTGCATCCCC **XcmI (652)** **XmnI (681)**
13 R V R L K P W L V A Q V N S C Q Y P G L Q W V N G E K K L F C I P

701 TGGAGGCATGCCACAAGGCATGGTCCCAGCCAGGACGGAGATAACACCATCTTCAAGGCTGGGCCAAGGAGACAGGAAATACACCGAAGGCGTGGATG **SphI (705)**
47 W R H A T R H G P S Q D G D N T I F K A W A K E T G K Y T E G V D

801 AAGCCGATCCGGCCAAGTGAAGGCCAACCTGCCTGTGCCCTTAAACAAGAGCCGGGACTTCCGCCTCATCTACGACGGGCCCGGGACATGCCACCTCA **XmaI (881)**
80 E A D P A K W K A N L R C A L N K S R D F R L I Y D G P R D M P P Q
901 GCCCTACAAGATCTACGAGTCTGCTCCAATGGCCTGTCCACAGACTCCAGCCCTGAGGATTACTCTTTTGGTGCAGGAGAGGAGGAGGAAGAA
113 P Y K I Y E V C S N G P A P T D S Q P P E D Y S F G A G E E E E E
1001 GAGGAAGAGCTGCAGAGGATGTTGCCAAGCCTGAGCCTCACAGATGCAGTGCAGTCTGGCCCCACATGACACCCTATTCTTTACTCAAAGAGGATGTCA
147 E E E L Q R M L P S L S L T D A V Q S G P H M T P Y S L L K E D V

1101 AGTGGCCGCCACTCTGCAGCCGCCACTCTGCAGCCGCCGTGGTGGTGGTCCCCCTGCTCCAGACCCAGCCCTGGCTCCTCCCTGGCAACCC **SandI (1149)**
180 K W P P T L Q P P T L Q P P V V L G P P A P D P S P L A P P P G N P

1201 TGCTGGCTTACAGGAGCTTCTCTGAGGTCTGGAGCCTGGGCCCTGCCTGCCAGCCTGCCCTGAGGCGAACAGCTCCTGCCAGACCTGCTGATC **SdaI (1264)**
213 A G F R E L L S E V L E P G P L P A S L P P A G E Q L L P D L L I

1301 AGCCCCACATGTGCTCTGACCGACCTGGAGATCAAGTTTTCAGTACCGGGGGCGGCCACCCCGGGCCCTCACCATCAGCAACCCCATGGCTGCCGGC **XmaI (1361)** **NcoI (1386)**
247 S P H M L P L T D L E I K F Q Y R G R P P R A L T I S N P H G C R

1401 TCTTCTACAGCCAGCTGGAGGCCACCCAGGAGCAGGTGGAAGTCTTCGGCCCCATAAGCTGGAGCAAGTGCCTTCCAGCCCTGAGGACATCCCCAG
280 L F Y S Q L E A T Q E Q V E L F G P I S L E Q V R F P S P E D I P S

1501 TGACAAGCAGCGCTTCTACACGAACAGCTGCTGGATGTCTGGACCGGGCTCATCTCCAGCTACAGGGCCAGGACCTTTATGCCATCCGCCTGTGT **Eco47III (1508)** **SacII (1545)**
313 D K Q R F Y T N Q L L D V L D R G L I L Q L Q G Q D L Y A I R L C

1601 CAGTGAAGGTGTTCTGGAGCGGCTTGTGCCTCAGCCATGACTCATGCCCAACCCCATCCAGCGGGAGGTCAAGACCAAGCTTTTCAGCCTGGAGC **BsrBI (1617)** **HindIII (1681)**
347 Q C K V F W S G P C A S A H D S C P N P I Q R E V K T K L F S L E

1701 ATTTTCTCAATGAGCTCATCTGTTTCAAAAAGGCCAGACCAACCCACCCTTCGAGATCTTCTTCTGCTTTGGGGAAGAATGGCCTGACCGCAA
380 H F L N E L I L F Q K G Q T N T P P P F E I F F C F G E E W P D R K

1801 ACCCGAGAGAAGAAGCTCATTACTGTACAGGTGGTGCCTGTAGCAGCTCGACTGCTGCTGGAGATGTTCTCAGGGGAGCTATCTTGGTCAGCTGATAGT **BsrGI (1824)**
413 P R E K K L I T V Q V V P V A A R L L L E M F S G E L S W S A D S

1901 ATCCGGCTACAGATCTCAAACCCAGACCTCAAAGACCGCATGGTGGAGCAATTCAGGAGCTCCATCACATCTGGCAGTCCCAGCAGCGGTTGCAGCCTG **BstAPI (1983)**
447 I R L Q I S N P D L K D R M V E Q F K E L H H I W Q S Q Q R L Q P

2001 TGGCCCAGGCCCTCCTGGAGCAGGCTTGGTGTGGCCAGGGCCCTGGCCTATGCACCCAGCTGGCATGCAATAACAAGGCTGCAGACGGTACTGCT **XcmI (2004)** **MscI (2034)** **SphI (2066)** **NheI (2097)**
480 V A Q A P P G A G L G V G Q G P W P M H P A G M Q •

2101 AGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTG **MscI (2103)**

2201 CTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAAACAACAATTGCATTATTTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTTA **HpaI (2235)** **MfeI (2246)**

2301 AAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAG **EcoRI (2331)**

2401 GGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCC

2501 AAGGTTTGAAGTACTCTTCATTTCTTTATGTTTTAAATGCAGTACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATT **SspI (2570)** **SwaI (2584)**

2601 GCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACC

2701 TTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCC
141 • N R T Y K L P I L E E I T T K V L K G

2801 ATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCA
121 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 E

2901 TCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCCGTTGCTCACAGCAGACCCAAATGGCAATGGCTTCAGCACAGACAGTGACCC
87 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 V R

3001 TGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGGTTGTTGCTTCATAGAGCATGGT
54 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 M T

BbsI (3155)

XmnI (3151)

3101 GATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTTCGTATTATACTATGCC
21 I K E T A V E V L E L D Q Q S I N F T K M

AseI (3217)

3201 GATATACTATGCCGATGATTAATTGTCAAACACGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCTAAACGAGCTCTGCTTATATAGACCTCCAC

SpeI (3372)

3301 CGTACACGCCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGT

3401 CAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAA

SnaBI (3500)

3501 TACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTA

NdeI (3605)

3601 CTGGGCATATGATACACTTGATGTACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGG

SdaI (3783) PacI (3791)

3701 GAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAG

BspLU11I (3801)

3801 AACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAA
ATCAGCGTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCT

3901 ATCAGCGTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCT

4001 GCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTACGCTGATAGGTATCTCAGTTCGGTGTAGGTCGTTCCG

ApaLI (4115)

4101 TCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTAT

4201 CGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAG

4301 AGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGATTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGT

4401 GGTTTTTTTGGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAACGAAA

EagI (4551)

PacI (4531) SmaI (4540) NotI (4550)

4501 ACTCACGTTAAGGGATTTTGGTTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTT

4601 TTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCGAGTCAAGTGCAGGTGCCAGAA

4701 CATTCTCTATCGAA