

PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82)
101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCGCCCTACCTGAGGGCC
PvuII (239)
Bsu36I (291)
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTCCTGACCTGCTTGTCTCAACTCTACGCTTTGTTTCGTTT

BstEII (555)
AgeI (552) **NcoI (560)**
501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCCATGGCTCTATTTGCAGTCTTTCAGACAACATTCTTCTT
1▶ M A L F A V F Q T T F F L

Psp1406I (644) 601 AACATTGCTGCTTGGAGACTTACCAGAGTGAAGTCTTGGCTGAACGTTTACCATTGACTCCTGTATCACTTAAAGTTTCCACCAATTCTACGCGTCAG
MluI (691)
13▶ T L L S L R T Y Q S E V L A E R L P L T P V S L K V S T N S T R Q
BsaBI (765)
701 AGTTTGCACCTTACAATGGACTGTCCACAACCTTCTTATCATCAGGAATTGAAAATGGTATTTCCAGATCCAGATCAGTGGATTGAAACATCCAATGTCA
47▶ S L H L Q W T V H N L P Y H Q E L K M V F Q I Q I S R I E T S N V
801 TCTGGGTGGGAATTACAGCACCCTGTGAAGTGAACAGGTTCTGCATTGGAGCTGGGAATCTGAGCTCCCTTTGGAATGTCCACACACTTTGTAAG
80▶ I W V G N Y S T T V K W N Q V L H W S W E S E L P L E C A T H F V R

BstXI (937) 901 AATAAAGAGTTTGGTGGACGATGCCAAGTCCCTGAGCCTTCTGGAGCAACTGGAGTTCCTGGGAGGAAGTCAGTGTACAAGATTCTACTGGACAG
BsrGI (978)
113▶ I K S L V D D A K F P E P N F W S N W S S W E E V S V Q D S T G Q
1001 GATATATTGTTCTTTTTCCCTAAAGATAAGCTGGTGAAGAAGGCCAACATGTTACCATTTGTACGTTTCTAGGAACATTCAAAATAATGTATCCTGTT
147▶ D I L F V F P K D K L V E E G T N V T I C Y V S R N I Q N N V S C

BspLU11I (1140) 1101 ATTTGGAAGGAAAACAGATTCATGGAGAACAACCTGATCCACATGTAAGTGCATTCAACTGAATAGTGTGCCTTTTATTAGGAATAAAGGGACAAATAT
180▶ Y L E G K Q I H G E Q L D P H V T A F N L N S V P F I R N K G T N I
ScaI (1266)
1201 CTATTGTGAGGCAAGTCAAGGAAATGTCAAGTGAAGGCATGAAAGGCATCGTCTTTTTGTCTCAAAAGTACTTGAGGAGCCCAAGGACTTTTCTTGTGAA
213▶ Y C E A S Q G N V S E G M K G I V L F V S K V L E E P K D F S C E

BamHI (1332) 1301 ACCGAGGACTTCAAGACTTTGCACTGTACTTGGGATCTGGGACGGACTGCCTTGGGGTGTCTAACAACCTTCCCAAAGCTACACTTTATTTGAAT
247▶ T E D F K T L H C T W D P G T D T A L G W S K Q P S Q S Y T L F E

BsrGI (1423) 1401 CATTTTCTGGGAAAAGAACTTGTACACACAAAACTGGTGAATTTGGCAAATACTCAAGACTCACAGAAACCTATAACTTCACTCATAGCTGA
280▶ S F S G E K K L C T H K N W C N W Q I T Q D S Q E T Y N F T L I A E
1501 AAATTAAGGAAGAGAGTGTCAATATCCTTTTTAACCTGACTCATCGAGTTTATTTAATGAATCCTTTTAGTGTCAACTTTGAAAATGTAATGCC
313▶ N Y L R K R S V N I L F N L T H R V Y L M N P F S V N F E N V N A

BspHI (1610) **ApaLI (1624)** **XmnI (1638)** **NcoI (1671)**
1601 ACAAATGCCATCATGACTTGAAGGTGCACTCCATAAGGAATAATTTACATATTTGTGTCAGATTGAACTCCATGGTGAAGGAAAAATGATGCAATACA
347▶ T N A I M T W K V H S I R N N F T Y L C Q I E L H G E G K M M Q Y

ScaI (1724) 1701 ATGTTTCCATCAAGGTGAACGGTGAAGTACTTCTTAAGTGAAGTGAAGCCTGCCACAGAGTACATGGCGCGAGTACGGTGTGCTGATGCCAGCCACTTCTG
380▶ N V S I K V N G E Y F L S E L E P A T E Y M A R V R C A D A S H F W
1801 GAAATGGAGTGAATGGAGTGGTGAAGTCACTCCACACTTGAAGCTGCTCCCTCAGAGGCCCTGATGTCTGGAGAATTGTGAGCTTGGAGCCAGGAAT
413▶ K W S E W S G Q N F T T L E A A P S E A P D V W R I V S L E P G N

SphI (1938) 1901 CATACTGTGACCTTATTCTGGAAGCATTATCAAAACTGCATGCAANTGGAAAGATCCTGTTCTATAATGTAGTTGTAGAAAACCTAGACAAACCATCCA
447▶ H T V T L F W K P L S K L H A N G K I L F Y N V V V E N L D K P S
2001 GTTCAGAGCTCCATTCCATTCCAGCACCAGCCAACAGCACAATACTCCTTACAGGTGTTCTACCAAATCTGCGTCATAGCCAACAACAGTGTGGG
480▶ S S E L H S I P A P A N S T K L I L D R C S Y Q I C V I A N N S V G

PstI (2129) 2101 TGCTTCTCTGCTTCTGTAATAGTCATCTCTGACACCCCAAAAAACAAGAGTTGAGGAAGAAAGAATTGCAGGCACAGAGGGTGGATTCTCTGTCT
513▶ A S P A S V I V I S A D P K N K E V E E E R I A G T E G G F S L S
2201 TGGAAACCCCAACCTGGAGATGTTATAGGCTATGTTGGACTGGTGTGACCATACCCAGGATGTGCTCGGTGATTCCAGTGGAAAGAAATGTAGGTCCCA
547▶ W K A P Q P G D V I G Y V D W C D H T Q D V L G D F W K N V G P
2301 ATACCACAAGCAGTCAATAGCACAGATGCTTTAGGCCAGGAGTTCGATATGACTTCAAAATTTATGGGTTATCTACAAAAAGATTGCTTGTATT
580▶ N T T S T V I S T D A F R P G V R Y D F R I Y G L S T K R I A C L L

BbrPI (2449) 2401 AGAGAAAAAACAGGATACTCTCAGGAACCTGCTCCTCAGACAACCTCAGGTGCTGGTGGATACATTGACATCCCCTCCTCACTCTGAGTTGGAAA
613▶ E K K T G Y S Q E L A P S D N P H V L V D T L T S H S F T L S W K

Acc65I (2537)

2501 GATTACTCTACTGAATCTCAACCTGGTTTTATACAAGGGTACCATGTCTATCTGAAATCCAAGGCGAGGCAGTGCCACCCACGATTTGAAAAGGCAGTTC
647▶ D Y S T E S Q P G F I Q G Y H V Y L K S K A R Q C H P R F E K A V
2601 TTTTCAGATGGTTGAGAATGTTGCAAATACAAAATTGACAACCCGGAAGAAAAGGCATTGATTGTGGACAACCTAAAGCCAGAATCCTTCTATGAGTTTTT
680▶ L S D G S E C C K Y K I D N P E E K A L I V D N L K P E S F Y E F F

SpeI (2713) **BspEI (2760)** BsaBI (2784)

2701 CATCACTCCATTCAGTGTGCTGGTGAAGGCCAGTGTACGTTACGAAGGTCACGACTCCGGATGAACACTCCTCGATGCTGATTATATCCTACTG
713▶ I T P F T S A G E G P S A T F T K V T T P D E H S S M L I H I L L

NcoI (2801)

2801 CCCATGGTTTTCTGCGTCTTGCTCATCATGGTCATGTGCTACTTGAAAAGTCAGTGGATCAAGGAGACCTGTTATCCTGACATCCCTGACCCCTTACAAGA
747▶ P M V F C V L L I M V M C Y L K S Q W I K E T C Y P D I P D P Y K

AseI (2913)

2901 GCAGCATCTGTCAATAATAAAATTCGAAGGAGAACCCTCACCTAATAATAATGAATGTCAGTACTGATCCAGATGCTATTGAAGTTGTAAGCAAGCC
780▶ S S I L S L I K F K E N P H L I I M N V S D C I P D A I E V V S K P

AvrII (3021)

3001 AGAAGGGACAAAGATACAGTTCTAGGCACTAGGAAGTCACTCACAGAAACCGAGTTGACTAAGCCTAACTACCTTTATCTCCTTCCAACAGAAAAGAAT
813▶ E G T K I Q F L G T R K S L T E T E L T K P N Y L Y L L P T E K N
3101 CACTCTGGCCCTGGCCCTGCATCTGTTTTGAGAACTTGACCTATAACCGAGCAGTTCTGACTCTGGCTCTTGTGGCCATGTTCCAGTATCCCCAAAAG
847▶ H S G P G P C I C F E N L T Y N Q A A S D S G S C G H V P V S P K

PvuII (3287)

3201 CCCAAGTATGCTGGGACTAATGACCTCACCTGAAAATGTAATAAGGCACTAGAAAAAACTACATGAACCTCCCTGGGAGAAATCCAGCTGGAGAAAC
880▶ A P S M L G L M T S P E N V L K A L E K N Y M N S L G E I P A G E T
3301 AAGTTTGAATTATGTGTCCAGTTGGCTTACCATGTTTGGAGACAAGGACAGTCTCCCAACAAACCCAGTAGAGGCACCACACTGTTCCAGAGTATAAA
913▶ S L N Y V S Q L A S P M F G D K D S L P T N P V E A P H C S E Y K
3401 ATGCAAATGGCAGTCTCCCTGCGTCTTGCCCTGCTCCCGACCGAGAATAGCAGCCTCTCCTCAATTACCCTTTTAGATCCAGGTGAACACTACTGCT
947▶ M Q M A V S L R L A L P P P T E N S S L S S I T L L D P G E H Y C

SphI (3505) **NheI (3516)**

3501 AACCGCATGCCGATTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAGTGAATGCAGTGAAAAAATGCTTTATTTGT
980▶ •

HpaI (3654) MfeI (3665)

3601 GAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGG

EcoRI (3750)

3701 AAGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCT
3801 ACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCCTCACCTTCTTTCATGGAGTTTA

SapI (3932) **SspI (3989)**

3901 AGATATAGTATTTTTCCAAGGTTTGAAGTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATGATAAAATATTCAGAA

SwaI (4003)

4001 ATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGA
4101 CTTAGGGAACAAAGAACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGG
141◀ • N R T Y K L P I L E E I T

BstXI (4293)

4201 TGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCT
127◀ 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 G C P S V V R
4301 GATGGATCTGTCCACCTCATCAGAGTAGGGGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCT
94◀ 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 S G I A I A

StuI (4428)

4401 TCAGCACAGACAGTGACCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCCGACATGGTGCTGT
60◀ 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 A G V H H K N

BbsI (4574) XmnI (4570)

4501 TGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTCATGGTGGCCCTCCTATAGTG
27◀ 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 M

AseI (4636)

4601 AGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCT

SpeI (4791)

4701 GCTTATATAGACCTCCCACCGTACACGCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGAAAAGTCCCGTTGATTTACTAGTCAA
4801 AACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCA

SnaBI (4919)

4901 TGGTAATAGCGATGACTAATACGTAGATGACTGCAAGTAGGAAAGTCCCATAAGGTCATGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATT

NdeI (5024)

5001 GACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTC

5101 CCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGTCAGCCAGGCGGGCCATTTACCCTAAGTTATGTAA

PstI (5203)

SdaI (5202)

BspLU11I (5220)

5201 CGCCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCCTTTTCCATAGGCTCCGCCCC

5301 CCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGC

5401 GCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAG

ApaLI (5534)

5501 TTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTAGCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAAC

5601 CCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGC

5701 CTAACACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACA

5801 AACACCCTGTTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCT

EagI (5970)

SwaI (5959)

NotI (5969)

5901 GACGCTCAGTGGAACGAAAACACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATT

6001 ACATCTGTGTGTTGGTTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGT

6101 GCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA