



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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC EcoNI (287) Bsu36I (291)

301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NaeI (441) 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560)
BstEII (555) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATGGCGGAGGCTTCGAGTGACCCGGTGGCGAGGAGCC AgeI (552) XmaI (582)
1▶ M A E A S S D P G A E E R

Bsp120I (613) 601 GGAAGAGTTGCTGGGGCCACTGCTCAGTGGAGCGTGGAGGACGAGGAGGAGGCGTCCACGAGCAATGCCAGCATGAGAGAGACAGGACGTTCAAGGCC
13▶ E E L L G P T A Q W S V E D E E E A V H E Q C Q H E R D R Q L Q A

EagI (733) 701 CAGGACGAGGAGGAGGCGCCATGTCCCGAGCGCCGAGGAGATGCTCCTCAGCCTGAAGCCCTCGGAGGCCCTGAAGTGGATGAGGACGAGG
47▶ Q D E E G G G H V P E R P K Q E M L L S L K P S E A P E L D E D E

Bsu36I (895) 801 GCTTTGGGACTGGTCCAGAGGCCAGAGCAGCGGCAGCAGCACGAGGGGGCGCAGGGCACCTGGACAGCGGAGAGCCCCCAGTGCAGGAGTCTCTGA
80▶ G F G D W S Q R P E Q R Q Q H E G A Q G T L D S G E P P Q C R S P E

SphI (927) 901 GGGGAGCAAGAGGACAGCCCGCCTGCATGCCTACGAAAAGGAGGACAGTGAAGTCCACCTGGAGGAGTTGAGTCTGAGCAAGGAGGGGCCAGGC
113▶ G E Q E D R P G L H A Y E K E D S D E V H L E E L S L S K E G P G

BstXI (1088) 1001 CCAGAGGACTGTCCAGGACAACCTGGGGCCGAGGGGCTGAGGAGGAACAGGAGGAGCACCAGAAATGTCAGCAGCCAGGACACCCAGCCCTTGG
147▶ P E D T V Q D N L G A A G A E E E Q E E H Q K C Q Q P R T P S P L

1101 TCTTGAGGGGACCATCGAACAGAGCTCGCCTCCCTGAGCCCTACCACAAACTCATCGACAGGACCGAGTCCCTAAACCGTCCATAGAGAAGAGTAA
180▶ V L E G T I E Q S S P P L S P T T K L I D R T E S L N R S I E K S N

NheI (1299) 1201 CAGTGTGAAGAAATCCCAGCCAGACTTGCCCATCTCCAAGATTGATCAGTGGCTGGAACAATACCCAGGCCATCGAGACCGCTGGCCGGACCCCAAG
213▶ S V K K S Q P D L P I S K I D Q W L E Q Y T Q A I E T A G R T P K

StuI (1310) 1301 CTAGCCCGCAGGCTCCATAGAGTGCAGCATGGCTGTGGCCAGTACCAAGAGTCGGTGGGAGACGGGTGAGGTACAGGCTCAGTCTGCGGCCAAGA
247▶ L A R Q Q A S I E L P S M A V A S T K S R W E T G E V Q A Q S A A K

1401 CTCCGCTCTGCAAGGATATTGTGGCTGGAGACATGAGCAAGAAAGCCTCTGGGAGCAGAAGGGAGGCTCAAGACCTCATCAACAATTAAGAGCACCC
280▶ T P S C K D I V A G D M S K K S L W E Q K G G S K T S S T I K S T P

Bsp120I (1566) 1501 ATCTGGAAAGAGGTATAAGTTTGTGGCCACCGGCATGGGAAGTATGAGAAGGTCTTGTGGAAGGGGCGCCGCTCCCTAGGCGTCCCATCTCGCTTCC
313▶ S G K R Y K F V A T G H G K Y E K V L V E G P A P •

1601 TCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTA

HpaI (1738) 1701 TTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAAACAACAACATTGCATTATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTT MfeI (1749)

EcoRI (1834) 1801 TTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAAATCTAAATAACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCT
1901 GAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTT

SspI (2073) 2001 CCAAGGTTTGAAGTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATAGTAAATATTTCAGAAATAATTTAAATACATC SwaI (2087)

2101 ATTGCAATGAAAAATAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGAAGTTCAGGCAACAAAGGA

2201 ACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTT
141▶ • N R T Y K L P I L E E I T T K V L K

BstXI (2377) 2301 GCCATTCATCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACC
122▶ 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 D V

2401 TCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGA
88▶ 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 V T V

StuI (2512) 2501 CCCTGCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTTCCTCATAGAGCAT
55▶ 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 Y L M

BspHI (2662)
BbsI (2658)
XmnI (2654)

2601 GGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTAT
 224 T I K E T A V E V L E L D Q Q S I N F T K M

AseI (2720)

2701 CCCGATATACTATGCCGATGATTAATTGTCAAACACGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTC

SpeI (2875)

2800 CCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCCATT
 2899 GACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATG

SnaBI (3003)

2999 ACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAAGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGG

NdeI (3108)

3099 GCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTAC

PstI (3287)
SdaI (3286)
PacI (3294)

3199 TATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTGCAGGTT

BspLU11I (3304)

3297 AA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCA
 3396 TCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTT
 3496 CCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGG

ApaLI (3618)

3596 TCGTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACA
 3696 CGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGC
 3796 TACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGATTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTG
 3896 GTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTG

EagI (4054)
PacI (4034) **Swal (4043)** **NotI (4053)**

3996 GAACGAAAACACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTATTACATCTGTGT
 4095 GTTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAAG
 4195 GTGCCAGAACATTTCTCTATCGAA