



PvuI (7)
SgfI (6)
EcoNI (96)

1 GGATCTGGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
EcoNI (287)

Psp1406I (203)
PvuII (239)

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

KasI (535)
AgeI (552)

501 TCTGTTTGTCCGCGCTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTCAACATGACCAACAAGTGTCTCCTCCAAATTGCTCTCCTGTT
 601 GTGCTTCTCCACTACAGCTCTTTCCATGAGCTACAACCTGCTTGGATTCTACAAAGAAGCAGCAATTTTCAGTGTGAGAAGCTCCTGTGGCAATTGAAT
 130▶ C F S T T A L S M S Y N L L G F L Q R S S N F Q C Q K L L W Q L N

PstI (763)

SspI (710)
PvuII (760)

701 GGGAGGCTTGAATAATGCGCTCAAGGACAGGATGAACCTTTGACATCCCTGAGGAGATTAAGCAGCTGCAGCAGTCCAGAAGGAGGACGCCGATTGACCA
 47▶ G R L E Y C L K D R M N F D I P E E I K Q L Q Q F Q K E D A A L T
 801 TCTATGAGATGCTCCAGAACATCTTTGCTATTTTCAGACAAGATTCATCTAGCACTGGCTGGAATGAGACTATTGTTGAGAACCCTCGGCTAATGCTA
 80▶ I Y E M L Q N I F A I F R Q D S S S T G W N E T I V E N L L A N V Y

BbsI (918)
BspHI (971)

901 TCATCAGATAAACCATCTGAAGACAGTCTGGAAGAAAACTGGAGAAAGAAGATTTACCAGGGAAAACTCATGAGCAGTCTGCACCTGAAAAGATAT
 113▶ H Q I N H L K T V L E E K L E K E D F T R G K L M S S L H L K R Y

XcmI (1055)
PshAI (1053)

1001 TATGGGAGGATTCTGCATTACCTGAAGGCAAGGAGTACAGTCACTGTGCCTGGACCATAGTCAGAGTGGAAATCCTAAGGAACCTTTACTTCATTAACA
 147▶ Y G R I L H Y L K A K E Y S H C A W T I V R V E I L R N F Y F I N

MscI (1132)

BstEII (1108)
NheI (1126)

1101 GACTTACAGGTTACTCCGAAACTGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATG
 180▶ R L T G Y L R N •

HpaI (1264)

1201 CTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAG

EcoRI (1360)

1301 GTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAAA
 1401 TCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTC

SspI (1599)

1501 ATGGAGTTAAGATATAGTGTATTTTCCAAGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATGTAATA

Swal (1613)
EcoO109I (1674)

1601 ATATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTT
 1701 AGTAGTTGGACTTAGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTACTTGGGGGGATGAGT
 141▶ • N R T Y K L P I L

SacI (1874)

1801 TCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGC
 130▶ 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 G C P S

BstXI (1903)

1901 TGACCACCCTGATGGATCTGCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAAT
 97▶ 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 S G I

StuI (2038)

2001 GGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCCGACA
 64▶ 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 A G V

BspHI (2188)
BbsI (2184)
XmnI (2180)

2101 TGGTGCTTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCC
 30▶ 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 M

AseI (2246)

2201 TCCTATAGTGAAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTA

SacI (2303)

2301 AACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATT

2401 **SpeI (2401)**
TACTAGTCAAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCCTATCCACGCCATTGATGTACTGCCAAAA
←

2500 **SnaBI (2529)**
CCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCAT

2600 **NdeI (2634)**
TTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTC
2700 AATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCTTGGGCGGTGAGCCAGGCGGGCCATTACCGT

2800 **PstI (2813)** **SdaI (2812)** **PacI (2820)** **BspLU11I (2830)**
AAGTTATGTAACGCCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGGAAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCA
←

2898 TAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGA
2998 AGCTCCCTCGTGCCTCTCTGTTCGACCCTGCCCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCAGCGT

3098 **ApaLI (3144)**
GTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATCG
3198 TCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTC
3298 TTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTT
3398 GATCCGGCAAACAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTT

3498 **EagI (3580)**
PacI (3560) **SwaI (3569)** **NotI (3579)**
TTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATAT

3598 CTTTATTTTCATTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAACGAAACAAACAACTAGCAAATA
3698 GGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA