



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCATCGCTCCGGTGCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

**AgeI (552)** **SphI (560)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTGAGCATGCTGCGTGGCGGGGAGCCCTGGCATGGGTGTGCA

601 TGTGGGTGCAGCCCTGGGAGCACTGTGGTTCTGCCTCACAGGAGCCCTGGAGGTCCAGGTCCCTGAAGACCCAGTGGTGGCACTGGTGGGACCCGATGCC

13▶ V G A A L G A L W F C L T G A L E V Q V P E D P V V A L V G T D A

701 ACCCTGTGCTGCTCTTCTCCCCTGAGCCTGGCTTACGCTGGCACAGCTCAACTCATCTGGCAGCTGACAGATACAAACAGCTGGTGCACAGCTTTG

47▶ T L C C S F S P E P G F S L A Q L N L I W Q L T D T K Q L V H S F

801 CTGAGGGCCAGGACCAGGGCAGCGCCTATGCCAACCGCACGGCCCTTCCCAGACCTGCTGGCACAGGGCAACGCATCCCTGAGGCTGCAGCGCGTGGC

80▶ A E G Q D Q G S A Y A N R T A L F P D L L A Q G N A S L R L Q R V R

**BbsI (664)** **DraIII (699)**  
1▶ M L R R R G S P G M G V H

901 TGTGGCGGACGAGGGCAGCTTACCTGCTTCGTGAGCATCCGGGATTTCCGGCAGCGTCCCTGACGCTGCAGGTGGCCGCTCCCTACTCGAAGCCAGC

113▶ V A D E G S F T C F V S I R D F G S A A V S L Q V A A P Y S K P S

**BbrPI (1050)**  
1001 ATGACCCTGGAGCCCAACAAGGACCTGCGGCCAGGGGACACGGTGACCATCACGTGCTCCAGTACCAGGGCTACCCTGAGGCTGAGGTGTTCTGGCAGG

147▶ M T L E P N K D L R P G D T V T I T C S S Y Q G Y P E A E V F W Q

**Tth111I (1131)**  
1101 ATGGGCAGGGTGTGCCCTGACTGGCAACGTGACCACGTGCGCAGATGGCCAACGAGCAGGGCTTGTGGTGTGACAGCATCCTGCGGGTGGTGTGGG

180▶ D G Q G V P L T G N V T T S Q M A N E Q G L F D V H S I L R V V L G

1201 TGCAAATGGCACCTACAGCTGCCTGGTGCACACCCCGTGTGCGCAGGATGCGCACAGCTCTGTACCATCACACCCAGAGAAGCCACAGGAGCC

213▶ A N G T Y S C L V R N P V L Q Q D A H S S V T I T P Q R S P T G A

1301 GTGGAGGTCCAGGTCCCTGAGGACCCGGTGGTGGCCCTAGTGGGCACCGATGCCACCTGCGTGTCTCTCTCCCCGAGCCTGGCTTACGCTGGCAC

247▶ V E V Q V P E D P V V A L V G T D A T L R C S F S P E P G F S L A

1401 AGCTCAACCTCATCTGGCAGCTGACAGACACCAACAGCTGGTGCACAGTTTACCAGGAGCCGGGACAGGGCAGCGCCTATGCCAACCGCACGGCCCT

280▶ Q L N L I W Q L T D T K Q L V H S F T E G R D Q G S A Y A N R T A L

**NsiI (1526)**  
1501 CTTCCCGACCTGCTGGCACAAGGCAATGCATCCCTGAGGCTGACGCGGTGCGTGTGGCGGACGAGGGCAGCTTACCTGCTTCGTGAGCATCCGGGAT

313▶ F P D L L A Q G N A S L R L Q R V R V A D E G S F T C F V S I R D

**Eco47III (1606)** **BsrBI (1631)**  
1601 TTCGGCAGCGTCCGCTCAGCCTGCAGGTGGCCGCTCCCTACTCGAAGCCAGCATGACCCTGGAGCCCAACAAGGACCTGCGGCCAGGGGACACGGTGA

347▶ F G S A A V S L Q V A A P Y S K P S M T L E P N K D L R P G D T V

**BbrPI (1704)** **Tth111I (1785)**  
1701 CCATCAGTGTCTCAGCTACCGGGCTACCCTGAGGCTGAGGTGTTCTGGCAGGATGGGAGGGTGTGCCCTGACTGGCAACGTGACCACGTGCGCAGAT

380▶ T I T C S S Y R G Y P E A E V F W Q D G Q G V P L T G N V T T S Q M

1801 GGCCAACGAGCAGGGCTTGTGGTGTGACAGCGTCTCGGGTGGTGTGGTGGCAATGGCACCTACAGTGCCTGGTGCACACCCCGTGTGCGAG

413▶ A N E Q G L F D V H S V L R V V L G A N G T Y S C L V R N P V L Q

1901 CAGGATGCGCAGGGCTGTGACCATCACAGGGCAGCCTATGACATCCCCCAGAGGCCCTGTGGGTGACCGTGGGGCTGTCTGTCTCATTGCAC

447▶ Q D A H G S V T I T G Q P M T F P P E A L W V T V G L S V C L I A

2001 TGCTGGTGGCCCTGGCTTTCGTGTGCTGGAGAAAGATCAAACAGAGCTGTGAGGAGGAGAATGCAGGAGCTGAGGACCAGGATGGGGAGGAGAAGGCTC

480▶ L L V A L A F V C W R K I K Q S C E E E N A G A E D Q D G E G E G S

**NheI (2190)**  
2101 CAAGACAGCCCTGCAGCCTCTGAAACACTCTGACAGCAAAGAAGATGATGGACAAGAAATAGCCTGACCATGAGAACCAGGAGCTGCTACGCTAGCTGGC

513▶ K T A L Q P L K H S D S K E D D G Q E I A •

2201 CAGACATGATAAGATACATTGATGAGTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATT

**HpaI (2328)** **MfeI (2339)**  
2301 TGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTGCATTCTTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAG

**EcoRI (2424)**  
2401 TAAACCTCTACAAATGTGGTATGGAATTTCTAAATAACAGCATAGCAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAA

2501 TAAGCATAGGCATCAGGGGCTTGGCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTCATGGAGTTAAGATATAGTGATTTTCCAAGGTTT

**SapI (2606)** **SspI (2663)** **Swal (2677)**  
 2601 GAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGA  
 2701 AAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATA  
 2801 GAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTATC  
 141 • N R T Y K L P I L E E I T T K V L K G N M  
**SacI (2938)**  
 2901 TCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGT  
 118 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 D S Y  
 3001 AGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAAT  
 85 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 G I  
**StuI (3102)**  
 3101 GTAGGCCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTGTTGCTCCTCATAGAGCATGGTGTCTTC  
 52 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 I K  
**BbsI (3248)**  
**XmnI (3244)**  
 3201 TCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATAC  
 18 E T A V E V L E L D Q Q S I N F T K M  
**AseI (3310)** **SacI (3367)**  
 3301 TATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACAC  
**SpeI (3465)**  
 3401 GCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGG  
**SnaBI (3593)**  
 3501 GTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAG  
**NdeI (3698)**  
 3601 ATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCA  
 3701 TATGATACTTGTACTGCTCAAGTGGGCGAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATA  
**PacI (3884)** **BspLUIII (3894)**  
 3801 CGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGT  
 3901 GAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACG  
 4001 CTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTT  
 4101 ACCGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGC  
 4201 TGGGCTGTGTGCACGAACCCCGTTACGCCCACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGTAAGACACGACTTATCGCCACT  
 4301 GGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACA  
 4401 GTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTT  
 4501 TTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACG  
**EagI (4644)**  
**PacI (4624)** **Swal (4633)** **NotI (4643)**  
 4601 TTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTGTGTG  
 4701 AATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCT  
 4801 CTATCGAA