



**PvuI (7)**  
**SgfI (6)** MfeI (82) EcoNI (96)  
 1 GGATCTGGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
 101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**HindIII (245)** **Bsu36I (291)**  
**Psp1406I (203)** **PvuII (239)** EcoNI (287)  
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGGCCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCGGTTGAGTGCCTGTTGCGCCCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
**NgoMI (441)**  
**NaeI (441)**  
 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

**NcoI (560)**  
**BstEII (555)**  
**KasI (535)** **AgeI (552)**  
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCCGCTACTGAGATCACCGGTACCCATGGGCTCCCTGCTGAGCAGCGACAGCTCCAAGTCCGC  
 1 M G S L L S S D S S K S A

**SacII (616)**  
 601 GCCCCCTCCGCCACCCCGGACTCTGGAGCGCAGGGGACTCGGAGCTGCCATCACCTCCTTCGACTGCTCAGTGTCTGGAGGTGCTACACCAG  
 13 P A S A T P R T L E R S G D S E L P I T S F D C S V C L E V L H Q

**Eco72I (721)**  
**BbrPI (721)**  
**BspEI (704)** **MscI (717)** **BspLU11I (775)**  
**RsrII (701)** **Ball (717)**  
 701 CCGGTCCGGACCCGCTGTGGCCACGTGTTCTGCCGATCTTGCAATGCGACAGTATAAAGAACAATAAATGGACATGTCCATACTGCCGGGCATACC  
 47 P V R T R C G H V F C R S C I A T S I K N N N K W T C P Y C R A Y  
 801 TTCCTTCAGAGGGAGTGGCCGCACTGACATAGCCAAGAGGATGAAGTCAAGTACCAGAAGTGTCTGAGTGTGAACTCTGGTTTGCCTCAGTGACAT  
 80 L P S E G V P A T D I A K R M K S E Y Q N C A E C G T L V C L S D M

**EcoO109I (913)** **ClaI (931)**  
 901 GAGGGCGCACATAAGGACCTGTGAGAAGTACATCGATAAATATGGCCCGTGTAGAAGTGGCGACACCACAGCAAGATGTGTATGTCCATTTTGTGAG  
 113 R A H I R T C E K Y I D K Y G P L L E L G D T T A R C V C P F C Q  
 1001 CGGAACTGGATGAAGACTGCTTGTGGATCATTGCATTATCCACCACAGATCAGAAAGGAGGCCCGTGTCTGCTCACTTTGCCATTCACGACCTGATG  
 147 R E L D E D C L D H C I I H R S E R R P V F C P L C H S R P D  
 1101 AAAGCCCAAGTACCTTCAATGGCAGTTTAAATTAGACATTTGCAAGTCACTCTTTTATGATGATTTTATGATATTTTATGATATAATTGAGGAAGC  
 180 E S P S T F N G S L I R H L Q V S H T L F Y D D F I D F D I I E E A

**MscI (1270)**  
**Ball (1270)**  
**BsrBI (1221)** **NheI (1264)**  
 1201 CATTATTCGAGAGTGTAGACCGCTCACTTCTTGAATATGTGAATCAGTCAAACACCACATAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAG  
 213 I I R R V L D R S L L E Y V N Q S N T T •

**HpaI (1402)** MfeI (1413) **EcoRI (1498)**  
 1401 AAGTTAACAAACAATTCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGA  
 1501 ATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTG  
 1601 CCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTAGCTCTTCATTTCTTTATGTT

**SspI (1737)** **SwaI (1751)**  
 1701 TAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAA

**EcoO109I (1812)**  
 1801 TCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCT  
 1901 TCTAGCTTTAGTTCCTGGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGTTCGATTCTCATCTCAATGAGCACAAAGCAGTCAGGAGC  
 141 N R T Y K L P I L E E I T T K V L K G N M E I L V F C D P A

**SacI (2012)** **BstXI (2041)**  
 2001 ATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTG  
 110 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 P H R V A V I T

**StuI (2176)**  
**Eco147I (2176)**  
 2101 TCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGA  
 76 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 Y A E I H V A S I  
 2201 TGATCTCCCAGTCTGGTCTGATGGCCGCCGACGGTGGTCTGTGCTCATAGAGCATGGTGTCTCTCAGTGGCGACCTCCACAGCTCCAG  
 43 I E G T K T R I A A G V H H K N D E Y L M T I K E T A V E V L E L

**BspHI (2326)** **VspI (2384)**  
**XmnI (2318)** **AseI (2384)**  
 2301 ATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCCTATAGTGAAGTCTATTACTATGCCGATATACTATGCCGATGATTAATTGTCAAACA  
 10 D Q Q S I N F T K M

2401 GCGTGGATGGCGTCTCCAGC T TATCTGACGGTTCCTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGG  
SacI (2441)

2501 GCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCCATTTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAG  
SpeI (2539)

2600 TCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCC  
SnaBI (2667)  
Eco105I (2667)

2700 ATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCCAA  
NdeI (2772)

2800 GTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGG

2900 GGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAAGGCCAGAAAAGGCC  
PstI (2951)  
SdaI (2950) PacI (2958) BspLU11I (2968)

2998 AGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACC

3098 CGACAGGACTATAAAGATACCAGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCT

3198 CCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCC  
ApaLI (3282)

3298 GTTCAGCCCAGCCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAAACCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGA

3398 TTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCT

3498 GAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACG

3598 CGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGCTGACGCTCAGTGGAACGAAAACCTACGTTAAGGGATTTTGGTCATGGCTA

3698 GTTAATTAACATTTAAATC AGCGGCCGAATAAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTC  
EagI (3718)  
PacI (3698) SwaI (3707) NotI (3717)

3798 CATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAGTCCAGAACATTTCTCTATCGAA