



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
**MfeI (82)** **EcoNI (96)**  
101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**HindIII (245)**  
**Psp1406I (203)** 201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC  
**PvuII (239)** **EcoNI (287)**  
301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
**NaeI (441)** 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

**AgeI (552)** **BspLU11I (560)** **SacII (584)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCCCTACCTGAGATCACCGGTCAACATGTTACCGAGCCAAGCTGGGGCCGCGCGGCTCTGGG  
1 M L P S Q A G A A A A L G  
**XmaI (694)**

**SandI (689)**  
601 CCGGGCTCGGCCCTGGGGGCAACCTGAACCGACCCGACGGGGCGCCGGGCGGCGGCGGACTCGCGGGGCAACGGGGCCGGTCCCGGG  
13 R G S A L G G N L N R T P T G R P G G G G G G T R G A N G G R V P G

**Bsp120I (767)**  
701 AACGGCGCGGGCTCGGCAGAGTCGTCTGGAGCGGGAGGCTGCAGCGGACGGCGCCACC GCCGGGCCCTACAGCGGAGCGAGGGCGACTCCG  
47 N G A G L G Q S R L E R E A A A A A A P T A G A L Y S G S E G D S  
801 AGTCCGGCGAGGAGGAGCTGGGCGCCGAGCGGCGGCGCTCAAGCGGAGCCTGAGCGAGATGGAGCTCGGCGTGGTGGTGGTGGCCTGAGGCGGC  
80 E S G E E E E L G A E R R G L K R S L S E M E L G V V V G G P E A A

**NotI (904)** **XmaI (968)**  
901 GCGGGCGCGCCGGGGCTACGGGCGGTCAGCGGCGGTCAGCGGGGCAAGCGGGGAAGAAGACCCGGGGCCGCTGAAGATCAAGATGGAGTTC  
113 A A A A G G Y G P V S G A V S G A K P G K K T R G R V K I K M E F  
1001 ATCACAACAAGCTGCGCGCTACACGACCTTTCAGCAAGAGGAAGACGGGCATCATGAAGAAGCCTATGAGCTGTCCACGCTGACAGGGACACAGGTGC  
147 I D N K L R R Y T T F S K R K T G I M K K A Y E L S T L T G T Q V

**Bst1107I (1131)**  
1101 TGTGCTGGTGGCCAGTGCAGACAGGCCATGTGTATACCTTTGCCACCCGAACTGCAGCCCATGATCACCAGTGCAGCCGCAAGGCGCTGATTGAGC  
180 L L L V A S E T G H V Y T F A T R K L Q P M I T S E T G K A L I Q T

**BglIII (1281)**  
1201 CTGCTCAACTCGCCAGACTCTCCGCCCGCTCAGACCCACACAGACCAGAGAATGAGTGCCACTGGCTTTGAAGAGCCAGATCTCACCTACCAGGTG  
213 C L N S P D S P P R S D P T T D Q R M S A T G F E E P D L T Y Q V

**Asp718I (1369)** **Acc65I (1369)**  
1301 TCGGAATCTGACAGCAGTGGGAAACCAAGGACACACTGAAGCCAGCATTACAGTCCCAACCTGCCGGTACCACCTCCACAATCCAGACAGACCCA  
247 S E S D S S G E T K D T L K P A F T V T N L P G T T S T I Q T A P

**Eco47III (1486)** **AfeI (1486)**  
1401 GCACCTTACCACATGCAAGTCAGCAGCGGCCCTCCTTCCCATCACCACACTACCTGGCACCAGTGTCTGCTAGTGTGAGCCCGAGCTGTGAGCAG  
280 S T S T T M Q V S S G P S F P I T N Y L A P V S A S V S P S A V S S

**PvuII (1561)**  
1501 TGCCAACGGGACTGTGCTCAAGAGTACAGGCGCGCCCTGTCTCCTCTGGGGCCTTATGCAGCTGCCTACCAGCTTACCCTCATGCTGGTGGGGCA  
313 A N G T V L K S T G S G P V S S G G L M Q L P T S F T L M P G G A

**ApaLI (1633)**  
1601 GTGGCCAGCAGGTCCTGTGCAGGCCATTATGTGCACAGGCCACAGCAAGCGTCTCCCTCTCGTGCAGCAGCAGACCTCACGAGACCTCCT  
347 V A Q Q V P V Q A I H V H Q A P Q Q A S P S R D S S T D L T Q T S

**Tth111I (1734)**  
1701 CCAGCGGACAGTGCAGTTCGCCGCCACCATCATGACGTGCTGTACCCACAACCTGTGGGTGGCCACATGATGTACCCTAGTCCCCATGCAGTGTGTA  
380 S S G T V T L P A T I M T S S V P T T V G G H M M Y P S P H A V M Y

**XcmI (1805)** **XcmI (1893)**  
1801 TGCCCCACCTCAGGCGCTGGCTGATGGCAGCCTCACCGTGCTCAATGCCTTCTCTCAGGCACCATCCACCATGCAGGTGTCCACAGCCAGGTCCAGGAG  
413 A P T S G L A D G S L T V L N A F S Q A P S T M Q V S H S Q V Q E  
1901 CCAGGTGGTGTCCCTCAGGTGTTCTGACAGCACCGTCTGGGACCGTGCAGATCCCTGTCTCTGAGTTCAGCTTCCACAGATGGCTGTGATAGGGCAGC  
447 P G G V P Q V F L T A P S S G T V Q I P V S A V Q L H Q M A V I G G Q  
2001 AAGCTGGGAGCAGCAGCAACCTCACCGAGTACAGGTGGTGAACCTGGATGCCACCCACAGCACCAGAGTGAATGATCCGCCGTCACCCTGGACAGC  
480 Q A G S S S N L T E L Q V V N L D A T H S T K S E •

**NheI (2101)**  
2101 GGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCT

**HpaI (2239)** **MfeI (2250)**  
2201 ATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTT

**EcoRI (2335)**  
2301 TTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTGAACTCTTTTC  
2401 TGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTTAAAGATATAGTGTATT

2501 TCCCAAGTTTGAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACAT  
2601 CATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGG  
2701 AACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCT  
2801 TGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCAC  
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  
2901 CTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTG  
89 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  
3001 ACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGCTCATAGAGCA  
55 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 D E Y L M  
XmnI (3155)  
3101 TGGTGATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCCTATAGTGAGTCGTATTATACTA  
22 T I K E T A V E V L E L D Q Q S I N F T K M  
AseI (3221)  
3201 TGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTC  
SpeI (3376)  
3301 CCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTTGATTACTAGTCAAAAACAACTCCCATT  
3400 GACGTC AATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATG  
SnaBI (3504)  
3500 ACTAATACGTAGATGTA CTGCCAAGTAGGAAAGTCCATAAGGT CATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGG  
NdeI (3609)  
3600 GCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTAC  
SdaI (3787)PacI (3795)  
3700 TATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGCGGTG CAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTG C A G G T T A  
BspLU11I (3805)  
3799 A TTAAGAACATGTGAGCAAAAAGGCCAGCAAAAAGCCAGGAACCGTAAAAAGGCCGCTTGTGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATC  
3899 ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTC  
3999 GACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTC  
ApaLI (4119)  
4099 GTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTT CAGCCGACCCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACAGC  
4199 ACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTA  
4299 CACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGT  
4399 AGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGA  
PacI (4535) SwaI (4544) NotI (4554)  
4499 ACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTT  
4599 GGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAAACAAAACGAAAACAAAACAACTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAAGTG  
4699 CCAGAACATTTCTCTATCGAA