



175  
|-----|

EcoRI (23)

NotI (2) XbaI (19) SdaI (38)

1 CCGGCCCGCTCGACGATATCTAGAATTCGGATCTGCAGGCTTAGAAATATGGGGTAGGGTGGTGGTGAATTCTGTTTTCTCCCATAGGTGAGAT
101 AAGCATTGGGTTAAATGTGCTTCTCTCTCCCTCTCCTTTCTTAAGAATTAAGGGACAGACTATGGGCTGGAGGACTTTGAGGATGTCTGTCTCATAA
HindIII (236)
201 CACTTGGGTTGTATCTGTTCTATGGGGCTGTTTTAAGCTTGGCAACTTGCAACAGGGTTCACTGACTTTCTCCCCAGGCCAAGTACTGTCTCTTTT
301 CATATCTGTTTTGGGGCCTCTGGGGCTTGAATATCTGAGAAAATATAACATTTCAATAATGTTCTGTGGTGAATGAGTATGAGAGATGTGTCATTCA
401 TTGTATCAATGAATGAATGAGGACAATTAGTGATAAATCCTTAGTACAACAATCTGAGGGTAGGGTGGTACTATTCAATTTCTATTTATAAGATACT
501 TATTTCTATTTATTTATGCTTGTGACAAATGTTTTGTTGGGACCACAGGAATCACAAAGATGAGTCTTTGAATTTAAGAAGTTAATGGTCCAGGAATA
601 TTACATAGCTTACAAATGACTATGATATACCATCAACAAGAGGTTCCATGAGAAAATAATCTGAAAGGTTAATAAGTTGTCAAAGGTGAGAGGGCTCT
701 TCTCTAGCTAGAGACTAATCAGAAATACATTCAGGGATAATTATTTGAATAGACCTTAAGGTTGGGTACATTTTGTCAAGCATTGATGGAGAAGGAGA
801 GTGAATATTTGAAAACATTTCACTAACCACACCACCAATCCAACAACAAAAATGAAAAGATCTCAGAAACAGTGAGATAAGAGAAGGAATTTTCT
901 CACAACCCACACGTATAGCTCAACTGCTCTGAAGAAGTATATATCTAATATTTAACTAATCATGCTAATAATGATAATAATTACTGTCTATTTTTTA

BspHI (1078)

1001 ATGCTATAAGTACCAGGCATTTAGAAGATATTATTCATTTATATATCAAATAAACTTGAGGGGATAGATCATTTTCATGATATATGAGAAAAATTA
1101 AAATCAGATTGAATTATTTGCCTGTCATACAGCTAATAATTGACCATAAGACAATTAGATTTAAATTAGTTTTGAATCTTTCTAATACCAAAGTTCAGTT
1201 TACTGTTCCATGTTGCTTCTGAGTGGCTTACAGACTTATGAAAAGTAAACGGAATCAGAATTACATCAATGAAAAGCATTGCTGTGAACCTGTACT
1301 TAGGACTAACTTTGAGCAATAACACATATAGATTGAGGATTGTTTGCTGTTAGTATACAACTCTGGTTCAAAGCTCCTCTTTATTGCTTGTCTTG

HindIII (1481)

1398 GAAAATTTGCTGTTCTTCATGGTTTCTTTTTCACTGCTATCTATTTTTCTCAACACTCACATGGCTACAATAACTGTCTGCAAGCTTATGATTCCAA
1498 ATgTCTATCTTAGCCTCAATCTTGTCCAGAAGATAAAAAGTAGTATTCAAATGCATCAACGCTCCACTTGGAGGGCTTAAAGACGTTTCAACATA
1598 CAAACCGGGAGTTTTGCCTGGAATGTTTCTAAAATGTGCTCTGTAGCACATAGGGTCTCTTGTCTTAAAATCTAATTAATTTAGCCAGTGCTC
1698 ATCCACCTATGGGAGATGAGAGTGAAAAGGGAGCTGATTAATAATTACTAAGTCAATAGGCATAGAGCCAGGACTGTTGGGTAAACTGGT
1794 CACTTTATCTTAACTAAATATATCCAAAAGTGAACATGACTTAGTTACTAAGTCTTTGACTTTATCTCATTACATACCACTCAGCTTTATCCAGGCCAC
1894 TagAGTTTGAGGAGAATATTTGTTATATTTGCAAATAAAATAAGTTTGCAAGTTTTTTTTTCTGCCCAAAGAGCTCTGTGTCCTTGAACATAAAATA

SpeI (2085)

1994 CAAATAACCCTATGCTGTTAATTATTGACAAATGTCCATTTTCAACCTAAGGAAATACCATAAAGTAACAGATATACCAACAAAAGGTTACTAGTTAA

NeoI (2183)

2094 CAGGCATTGCCTGAAAAGAGTATAAAAGAAATTTAGCATGATTTTCCATATTGTGCTTCCACCCTGCCAATAACAAAATAACTAGCAACCATGGTTCTG
2194 GGGCCTGCATGCTGCTGCTGCTGCTGCTGCTGGCCTGAGGCTACAGCTCTCCCTGGGCATCATCCAGTTGAGGAGGAGAACCAGGACTTCTGGAACC
4> G P C M L L L L L L L L L L G L R L Q L S L G I I P V E E E N P D F W N
2294 GCGAGGCAGCCGAGGCCCTGGGTGCCGCAAGAAGCTGCAGCCTGCACAGACAGCCGCAAGAACCTCATCATCTTCTGGCGATGGGATGGGGTGTG
37> R E A A E A L G A A K K L Q P A Q T A A K N L I I F L G D G M G V S

NdeI (2478)

2394 TACGGTGACAGCTGCCAGGATCCTAAAAGGGCAGAAGAAGGACAACTGGGGCCTGAGATACCCCTGGCTATGGACCCTTCCCATATGTGGCTCTGTCC
70> T V T A A R I L K G Q K K D K L G P E I P L A M D R F P Y V A L S
2494 AAGACATACAATGTAGACAAACATGTGCCAGACAGTGGAGCCACAGCCACGGCCTACCTGTGCGGGTCAAGGGCAACTCCAGACCATTGGCTTGGT
104> K T Y N V D K H V P D S G A T A T A Y L C G V K G N F Q T I G L S
2594 CAGCCGCCGCTTAAACAGTGCAACACGACACGCGGCAACGAGTTCATCTCCGTGATGAATCGGGCAAGAAAGCAGGGAAGTCACTGGGAGTGGTAA
137> A A A R F N Q C N T T R G N E V I S V M N R A K K A G K S V G V V T
2694 CACCACAGAGTGCAGCAGCCTCGCCAGCCGGCACCTACGCCACACGGTGAACCGCAACTGGTACTCGGACGCCGACGTGCCTCGCCCGCCAG
170> T T R V Q H A S P A G T Y A H T V N R N W Y S D A D V P A S A R Q
2794 GAGGGGTGCCAGGACATCGCTACGAGCTCATCTCCAACATGGACATTGATGTGATCCTGGTGGAGGCCGAAAGTACATGTTTCGATGGGAACCCAG
204> E G C Q D I A T Q L I S N M D I D V I L G G G R K Y M F R M G T P
2894 ACCCTGAGTACCCAGTACTACAGCAAGTGGGACAGGCTGGACGGGAAGAATCTGGTGCAGGAATGGCTGGCAAGCCAGGTCGCCGATGTG
237> D P E Y P D D Y S Q G G T R L D G K N L V Q E W L A K R Q G A R Y V
2994 GTGGAACCGCACTGAGCTCATGAGGCTTCCCTGGACCCGCTGTGACCCATCTCATGGTCTCTTTGAGCTGGAGACATGAAATACGAGATCCACCGA
270> W N R T E L M Q A S L D P S V T H L M G L F E P G D M K Y E I H R

SacII (3165)

3094 GACTCCACTGGACCCCTCCCTGATGGAGATGACAGAGGCTGCCCTGCGCTGCTGAGCAGGAACCCCGGCTTCTTCTCTTCTGTTGGAGGGTGGTC
304> D S T L D P S L M E M T E A A L R L L S R N P R G F F L F V E G G
3194 GCATCGACCAGGTCATCACGAAAGCAGGGCTTACCGGGCACTGACTGAGACGATCATGTTGACGACGCCATTGAGAGGGCGGGCCAGCTCACCAGCGA
337> R I D H G H H E S R A Y R A L T E T I M F D D A I E R A G Q L T S E
3294 GGAGGACACGCTGAGCCTCGTCACTGCCAGCACCTCCACGCTTCTCTTCCGAGGCTACCCCTGCGAGGGAGCTCCATCTTCCGGCTGGCCCTGGC
370> E D T L S L V T A D H S H V F S F G G Y P L R G S S I F G L A P G
3394 AAGGCCCGGGACAGGAAGGCTACAGGCTCCTCTATACGGAAACGGTCCAGGCTATGTGCTCAAGGACGGCGCCCGGCGGATGTTACCGAGAGCGAGA
404> K A R D R K A Y T V L L Y G N G P G Y V L K D G A R P D V T E S E

3494 GCGGGAGCCCCGAGTATCGGCAGCAGTCAGCAGTCCCCCTGGACGAAGAGACCCACGAGCGGAGGACGTGGCGGTGTTTCGCGCGGCCCGCAGGGCGCA  
437▶ S G S P E Y R Q Q S A V P L D E E T H A G E D V A V F A R G P Q A H  
3594 CCTGGTTCACGGCGTGCAGGAGCAGACCTTCATAGCGCACGTATGGCCTTCGCCGCTGCTGGAGCCCTACACCGCTGCGACCTGGGCCCGCCCGCC  
470▶ L V H G V Q E Q T F I A H V M A F A A C L E P Y T A C D L A P P A

**NheI (3749)**

3694 GGCACCACCGACGCCGCGCACCCGGGGCGGTCCCGGTCCAAGCGTCTGGATTGAAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAA  
504▶ G T T D A A H P G R S R S K R L D •

3794 ACCACAAC TAGAATGCAGTGA AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAACA

**MfeI (3898)**

3894 ACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTAATTCT

3994 AAAATACAGCATAGCAAACCTTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAAT  
4094 GTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTCTCTTCATTTCTTTATGTTTTAAA  
4194 TGCCTGACCTCCACATTCCTTTTTAGTAAATATTGAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAAATCCAG  
4294 ATGCTCAAGGCCCTTCATAATATCCCCAGTTTGTAGTTGGACTTAGGGAAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAG  
4394 CTTATCCTCAGTCTGCTCCTCTGCCACAAAGTGCACGCAGTTGCCGCGCGGGTTCGCGCAGGGCGAACTCCCGCCCCACGGCTGCTCGCGGATCTCGGT  
125▶ • D Q E E A V F H V C N G A P D R L A F E R G W P Q E G I E T  
4494 CATGGCCGGCCCGGAGGCGTCCCGGAAGTTCGTGGACACGACCTCCGACACTCGGCGTACAGCTCGTCCAGGCCGCGCACCCACCCAGGCCAGGGTG  
94▶ M A P G S A D R F N T S V V E S W E A Y L E D L G R V W V W A L T

**SgrAI (4656)**

4594 TTGTCCGGCACCACTGGTCTGGACCGCGCTGATGAACAGGGTACGCTCGTCCCGGACCAACCCGGCGAAGTCTGCTCCACGAAGTCCCGGGAGAACC  
60▶ N D P V V Q D Q V A S I F L T V D D R V V G A F D D E V F D R S F G  
4694 CGAGCCGGTCCGAGAACTCGACCGCTCCGGCGACGTCGCGCGCGGTGAGCACCGAAACGGCACTGGTCAACTTGGCCATGATGGCTCCTCCTGTCAG  
27▶ L R D T W F E V A G A V D R A T L V P V A S T L K A M

**MfeI (4819)**

4794 GAGAGGAAAGAGAAGAAGGTTAGTACAATTGCTATAGTGAGTTGATTATACTATGCAGATATACTATGCCAATGATTAATTGTCAAAGTAGGGCTGCAG  
4894 GTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAG  
4994 CATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACAGGCGTTTTCCCTGGAAGCTCCCTCGTGGCTCTCCTG  
5094 TTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTA  
5194 GGTGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGTAGTCCAACCGGTAAGA  
5294 CACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACG  
5394 GCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCCCGC  
5494 TGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAG  
5594 TGGAACGAAAACCTACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCA