



100

**PvuI (8)**  
**SgfI (7)**  
GGATCTCGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACCGGTGCCTA  
GAGAAGGTGGCGGGGTAAACTGGAAAAGTGATGTCGTGACTGGCTCCGCCTTTTTCCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

**Psp1406I (204)** **HindIII (246)** **Bsu36I (292)**  
GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCCGCCGACCTGAGGCC  
GCCATCCACGCCGGTTGAGTCCGGTTCTGCCGCCTCCCGCCTGTGGTGCCCTCCTGAAGTCCGCTCCGCGCTCTAGGTAAGTTAAAGTCCAGGTCGAGACC

**NaeI (442)**  
GGGCCTTTGTCCGGCGCTCCCTTGAGGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGTCTTTGTTTCGTTT

**SnaBI (542)** **KasI (536)** **EcoRV (551)** **Eco47III (590)**  
TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCCGCTACgtaagtgatctactagatttatcaaaaagagtgttgacttgtgagcgctcaciaa

**SalI (630)** **SgrAI (669)** **BsrGI (691)**  
ttgatacttagattcatcgagaggacacgtcgactactaaccttcttctcttctcctacagCTGAGATCACCGGCGAAGGAGGGCCACCATTGTACAGGAT  
▶ MetTyrArgMe

**EcoRI (743)** **SgrAI (788)** **SgrAI (787)**  
GCAACTCTGTCTTGCACTAAGTCTTGCACTTGTACGAATTCCTATGAGAGGCTGTCTGCACCTGGTTGCTCTGAACACACCGGTGGCTGGG  
▶ tGlnLeuLeuSerCysI leAlaLeuSerLeuAlaLeuValThrAsnSerTyrGluArgProValLeuHisLeuValAlaLeuAsnThrProValAlaGly

**PstI (841)** **SdaI (884)** **PstI (885)**  
GACATCCGAGCTGATTTCCAGTCTCCAGCAGGCCAGGGCTGCAGGCCCTCTGTCCACTTTCCGAGCCTTTCTGTCTTCACACCTGCAGGATCTCTCCA  
▶ AspI leArgAlaAspPheGlnCysPheGlnGlnAlaArgAlaAlaGlyLeuLeuSerThrPheArgAlaPheLeuSerSerHisLeuGlnAspLeuSerT  
CAGTCGTGCGGAAGGCAGAGAGGTTCCGCCTTCCAATTGTGAATCTCAAGGCCAAGTCTTTTAAACAATTGGGACTCGATATTTCTGGTGTGGAGG  
▶ hrValValArgLysAlaGluArgPheGlyLeuProl leValAsnLeuLysGlyGlnValLeuPheAsnAsnTrpAspSerI lePheSerGlyAspGlyGI

**NcoI (1100)**  
TCAATTCAATACACACATTCCAATCTACTCCTTTGACGGTCCGGATGTGATGACTGATCCTTCCGGCCAGAAAGTGGTCTGGCACGGCTCCAACCCC  
▶ yGlnPheAsnThrHisI leProl leTyrSerPheAspGlyArgAspValMetThrAspProSerTrpProGlnLysValValTrpHisGlySerAsnPro

**ScaI (1123)** **BstXI (1144)**  
CATGGTGTCCGCTTGTGGACAAGTACTGTGAAGCCTGGCGAACCACGGACATGGCAGTAACCGGATTTGCCTCCCCTGAGCACAGGGAAGATTCTGG  
▶ HisGlyValArgLeuValAspLysTyrCysGluAlaTrpArgThrThrAspMetAlaValThrGlyPheAlaSerProLeuSerThrGlyLysI leLeuA

**HindIII (1207)** **BspHI (1258)** **NheI (1281)**  
ACCAGAAAGCTTACAGCTGTGTAACAGGCTAATCGTCTGTGCATCGAAAACAGTTTCATGACAGACACTAGGAAGTGAAGTCTCGACATGATAAGA  
▶ spGlnLysAlaTyrSerCysAlaAsnArgLeuI leValLeuCysI leGluAsnSerPheMetThrAspThrArgLys•••  
TACATTGATGAGTTTGGACAAACCACAACACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGA

**HpaI (1444)** **PacI (1551)** **SwaI (1542)** **BspLU11I (1561)**  
TGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTCATTCAATTTATGTTTCAGGTTTCAGGGGGAGGTGTGGAG  
GTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTAGATCATTTAAATGTTAATTAGAACATGTGAGCAAAAAGGCCAGCAAAAAGGCCAGGAACCGTAA  
AAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTA  
TAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAA

**ApaLI (1875)**  
CGGTGGCGCTTCTCAATGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCTGCTCCAAAGCTGGGCTGTGTGCACGAACCCCGCTTCAGCCCGA  
CCGCTGCCCTTATCCGGTAACTATCGTCTTGAAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCG  
AGGTATGTAGGCGGTGTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTA  
CCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAA  
AGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAAGC

**BsrGI (2301)** **PacI (2291)**  
TGTACTGTGGAATGTGTGTCAGTTAGGGTGTGAAAAGTCCCAGGCTCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCA  
GGTGTGAAAAGTCCCAGGCTCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCGCCCTAACTCCGCCATCCC

**NcoI (2537)**  
GCCCTAACTCCGCCAGTTCGCCCATTTCCGCCCATGGCTGACTAATTTTTTTTTATTTATGAGAGGCGAGGCCGCTCTGCCTCTGAGCTATTC

**AvrII (2630)** **SmaI (2651)** **BbrPI (2688)** **AseI (2700)**  
CAGAAGTAGTGAGGAGGCTTTTTGGAGGCTAGGCTTTTGCAAAAAGCTCCCGGAGCTTGTATATCCATTTTCGGATCTGATcagCACGTGTTGACAA  
▶

**XmnI (2761)** **BspHI (2757)**  
TTAATCATCGGCATAGTATATCGGCATAGTATAATACGACAAGGTGAGGAACATAATCATGAGACCTTCAACATCTCTCAGCAGGATCTGGAGCTGGT  
▶ MetLysThrPheAsnI leSerGlnGlnAspLeuGluLeuVal  
GAGGTCGCCACTGAGAAGATCCCATGTCTATGAGGACAACAAGCCATGTCCGGGCGGCCATCAGGACCAAGACTGGGAGATCATCTCTGTCTGCC  
▶ GluValAlaThrGluLysI leThrMetLeuTyrGluAspAsnLysHisHisValGlyAlaAlaI leArgThrLysThrGlyGluI leI leSerAlaValH

ACATTGAGGCCTACATTGGCAGGGTCACTGTCTGTGCTGAAGCCATTGCCATTGGGTCTGCTGTGAGCAACGGGCAGAAGGACTTTGACACCATTGTGGC  
▶ isI leGluAlaTyrI leGlyArgValThrValCysAlaGluAlaI leAlaI leGlySerAlaValSerAsnGlyGlnLysAspPheAspThrI leValAlaI  
BstXI (3036) SacI (3071)  
TGTCAGGCACCCCTACTCTGATGAGGTGGACAGATCCATCAGGGTGGTCAGCCCTGTGGCATGTGCAGAGAGCTCATCTCTGACTATGCTCCTGACTGC  
▶ aValArgHisProTyrSerAspGluValAspArgSerI leArgValValSerProCysGlyMetCysArgGluLeuI leSerAspTyrAlaProAspCys  
EcoRI (3186)  
TTTGTGCTCATTGAGATGAATGGCAAGCTGGTCAAACCACCATTGAGGAACTCATCCCCCTCAAGTACACCAGGAACATAAACCTGAATTGCGTAGAGGG  
▶ PheValLeuI leGluMetAsnGlyLysLeuValLysThrThrI leGluGluLeuI leProLeuLysTyrThrArgAsn•••  
SacI (3230)  
CCCTATTCTATAGTGTACCTAAATGCTAGAGCTCGCTGATCAGCCTCGACTGTGCCTTCTAGTTGCCAGCCATCTGTTGTTTGGCCCTCCCCCGTGCCT  
TCCTTGACCCTGGAAGGTGCCACTCCCCTGCTCTTCTTAATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGGTGTCATTCTATTCTGGGGGGTG  
EagI (3473)  
NotI (3472)  
BsrBI (3470)  
FspI (3450) XhoI (3467)  
GGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGCATGCCAGGGCCCAATTGCTCGAGCGGCCGCAATAAAATATCTTTATTTCA  
TTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCA  
GTGCAAGTGCAGGTGCCAGAACATTTCTATCGAA