



100

PvuI (8) **EcoNI (97)**
SgfI (7) **AgeI (90)**
GGATCTGCGATCGCTCCGGTGCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACCGGTGCCTA
GAGAAGGTGGCGGGGTAAACTGGAAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

Psp1406I (204) **Bsu36I (292)**
HindIII (246) **EcoNI (288)**
GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGACAGACAGTGAAGCTTCGAGGGCTCGCATCTCTCCTTTCACGGCGCCCGCCCTACCTGAGGCC
GCCATCCACGGCGTTGAGTCCGCTTCTGCCGCTCCCGCTGTGGTGCCTCTGAACTGCGTCCGCGTCTAGGTAAGTTAAAGCTCAGGTCGAGACC

NaeI (442)
GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

SnaBI (542) **Eco47III (590)**
KasI (536) **EcoRV (551)**
TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACgt aagt gat at ct act ag at t t at caaaaagagt g t t gact t g t g agc g c t caaa

SaII (630) **SgrAI (669)** **BsrGI (691)**
tt gata ct tag at t cat cg ag ag g g ac g t c g act a c t a a c t t c t t c t t c t t c t a c a g C T G A G A T C A C C G G C G A A G G A G G G C C A C C A T G T A C A G G A T
▶ Met Tyr Arg Me

EcoRI (743)
GCAACTCTGTCTTGCATTGCACTAAGTCTTGCACCTTGTACGAATTCTTATGAGAAGCTGCTCTGCATTTGGCTGCTCTGAACATGCCATTTTCTGGG
▶ tGlnLeuLeuSerCysI leAlaLeuSerLeuAlaLeuValThrAsnSerTyrGluLysProAlaLeuHisLeuAlaAlaLeuAsnMetProPheSerGly

PstI (841) **BglII (890)**
GACATTCGAGCTGATTTTCAGTGCTTCAAGCAGGCCAGAGCTGCAGGACTGTTGTCCACCTACCGAGCATTCTTATCTTCCCATTTGCAAGATCTGTCCA
▶ AspI leArgAlaAspPheGlnCysPheLysGlnAlaArgAlaAlaGlyLeuLeuSerThrTyrArgAlaPheLeuSerSerHisLeuGlnAspLeuSerT

ScaI (956) **MscI (989)**
CCATTGTGAGGAAAGCAGAGAGATACAGCCTTCCCATAGTGAACCTCAAGGGCCAAGTACTTTTAATAATTGGGACTCAATTTTTCTGGCCACGGAGG
▶ hrI leValArgLysAlaGluArgTyrSerLeuProI leValAsnLeuLysGlyGlnValLeuPheAsnAsnTrpAspSerI lePheSerGlyHisGlyGI

NcoI (1100)
TCAGTTCAATATGCATATCCAATATACTCCTTTGATGGTTCGAGACATAATGACAGATCCTTCTGGCCCCAGAAAGTCATTGGCATGGCTCCAGCCCC
▶ yGlnPheAsnMetHisI leProI leTyrSerPheAspGlyArgAspI leMetThrAspProSerTrpProGlnLysValI leTrpHisGlySerSerPro

SacII (1144)
CATGGCGTCCGCCTTGTGGATAACTACTGTGAAGCATGGCGAACCGCGGACACAGCGGTACGGGACTTGCTCCCGCTGAGACGGGGAAGATTCTGG
▶ HisGlyValArgLeuValAspAsnTyrCysGluAlaTrpArgThrAlaAspThrAlaValThrGlyLeuAlaSerProLeuSerThrGlyLysI leLeuA

BspHI (1258) **NheI (1281)**
ACCAGAAAGCATAACAGCTGTGCTAATCGGCTAATTGCTCTATGTATCGAAAACAGTTTCATGACAGACGCTAGGAAGTAAAGCTAGCTCGACATGATAAGA
▶ spGlnLysAlaTyrSerCysAlaAsnArgLeuI leValLeuCysI leGluAsnSerPheMetThrAspAlaArgLys•••
TACATTGATGAGTTTGGACAAACCACAAGTAACTAGAAATGCTTTATTTGTAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGA

HpaI (1444)
TGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTCATTTCATTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAG

PacI (1551)
SwaI (1542) **BspLU11I (1561)**
GTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTAGATCATTAAATGTTAATTAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAA
AAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTA
TAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCCGGAA

ApaLI (1875)
CGGTGGCGCTTCTCAATGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGCTCAGCCGA
CCGCTGCGCTTATCCGTAACATATCGTCTTGTAGTCCAACCCGTAAGACAGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCC
AGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTA
CCTTCGGAAAAAGAGTTGGTAGCTCTTGTATCCGGCAAACAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAA

PacI (2291)
AGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGCTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGATTTTGGTCATGGCTAGTTAATTAAGC

BsrGI (2301)
TGTAACCTGTGGAATGTGTGTCAGTTAGGGTGTGAAAAGTCCCGAGGCTCCCGAGCAGGAGGATGCAAAGCATGCATCTCAATTAGTCAGCAACCA
GGTGTGAAAAGTCCCGAGGCTCCCGAGCAGGAGGATGCAAAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCGCCCTAACTCCGCCATCCC

NcoI (2537)
GCCCTAACTCCGCCAGTCCGCCATTCTCCGCCCATGGCTGACTAATTTTTTTTTATTTATGCAGAGGCCGAGGCCCTCTGCCTCTGAGCTATTC

AvrII (2630) **BbrPI (2688)** **AseI (2700)**
StuI (2627) **SmaI (2651)**
CAGAAGTAGTGAGGAGGCTTTTTGGAGGCCTAGGCTTTTGCAAAAAGCTCCCGGAGCTTGATATCCATTTTCGGATCTGATcagCACGTGTGACAA

XmnI (2761)
BspHI (2757)
TTAATCATCGGCATAGTATATCGGCATAGTATAATACGACAAGGTGAGGAACATAATCATGAAGACCTCAACATCTCTCAGCAGGATCTGGAGCTGGT
▶ MetLysThrPheAsnI leSerGlnGlnAspLeuGluLeuVal

GAGGTCGCCACTGAGAAGATCCACATGCTCTATGAGGACAACAAGCACCATGTCGGGGCGGCCATCAGGACCAAGACTGGGGAGATCATCTCTGCTGTCC
▶ GluValAlaThrGluLysI leThrMetLeuTyrGluAspAsnLysHisHisValGlyAlaAlaI leArgThrLysThrGlyGluI leI leSerAlaValH
StuI (2907)
ACATTGAGGCCTACATTGGCAGGGTCACTGTCTGTGCTGAAGCCATTGCCATTGGGTCTGCTGTGAGCAACGGGCAGAAGGACTTTGACACCATTGTGGC
▶ isI leGluAlaTyrI leGlyArgValThrValCysAlaGluAlaI leAlaI leGlySerAlaValSerAsnGlyGlnLysAspPheAspThrI leValAl
BstXI (3036) SacI (3071)
TGTCAGGCACCCCTACTCTGATGAGGTGGACAGATCCATCAGGGTGGTCAGCCCCTGTGGCATGTGCAGAGAGCTCATCTCTGACTATGCTCCTGACTGC
▶ aValArgHisProTyrSerAspGluValAspArgSerI leArgValValSerProCysGlyMetCysArgGluLeuI leSerAspTyrAlaProAspCys
EcoRI (3186)
TTGTGCTCATTGAGATGAATGGCAAGCTGGTCAAACCACCATTGAGGAACATCCCCTCAAGTACACCAGAACTAAACCTGAATTGCGCTAGAGGG
▶ PheValLeuI leGluMetAsnGlyLysLeuValLysThrThrI leGluGluLeuI leProLeuLysTyrThrArgAsn•••
SacI (3230)
CCCTATTCTATAGTGTACCTAAATGCTAGAGCTCGCTGATCAGCCTCGACTGTGCCTTCTAGTTGCCAGCCATCTGTTGTTTGGCCCTCCCCCGTGCCT
TCCTTGACCCTGGAAGGTGCCACTCCCCTGTCCTTTCCTAATAAAATGAGGAAATTGCATCGCATTGCTGAGTAGGTGCATTCTATTCTGGGGGGTG
EagI (3473)
NotI (3472)
BsrBI (3470)
FspI (3450) XhoI (3467)
GGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGCATGCCGAGGGCCCAATTGCTCGAGCGGCCGCAATAAAATATCTTTATTTCA
TTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCA
GTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA