

5 MBP-LIMs (7335 bp)

Van91I
AccB7I
PflMI

ccgacaccatcgaatggtgcaaacctttcgcggtatggcatgatagcggccggaagagagtcaattcagggtggtgaatgtgaaccagtaacgttatacgatgtc
ggtggtgtagcttaccacgttttgaaagcgccataaccgtactatcggggcttctctcagttaagtcccaccacttacactttggtcattgcaatagctacag

20 40 60 80 100

gcagagtatgccggtgtctcttatcagaccgtttcccgcgtggtgaaccaggccagccacgtttctgcgaaaacgcgggaaaaagtggaagcggcgatggcggagct
cgtctcatacggccacagagaatagtctggcaaaggcgccaccacttggctccggtcggtgcaaagacgcttttgccctttttcaccttcgcccgtaccgcctcga

120 140 160 180 200

gaattacattccaaccggtggcacaacaactggcgggcaaacagtcggttgctgattggcggttgcacctccagtctggccctgcacgcgccgtcgcaaatgtcg
cttaatgtaagggttggcgcaccgtgtgttgaccgcccgtttgtcagcaacgactaaccgcaacggtggaggtcagaccgggacgtgcgccgagcgtttaacagc

220 240 260 280 300 320

cggcgattaaatctcgcgccgatcaactgggtgccagcgtggtggtgctgatggtagaacgaagcggcgtcgaagcctgtaaagcggcgggtgcacaatcttctcgcg
ggcgttaatttagagcgggctagttgaccacggctcgaccaccacagctaccatcttgcttcgcccagcttcggacatttcgccccacggtgtagaagagcgc

340 360 380 400 420

MluI

BclI

caacgcgtcagtggtgatcattaactatccgctggatgaccaggatgccattgctgtggaagctgcctgcactaatgttccggcgttatttcttgatgtctctga
ggtgcgagctcaccgactagtaattgataggcgacctactggtcctacggtaacgacaccttcgacggagctgattacaaggccgcaataaagaactacagagact

440 460 480 500 520

BstEII

PspOMI

Eco91I

NmeAIII

BstEII

Bsp120I

ccgacaccatcaacagtattattttctccatgaagacggtacgcgactggcggtgagcatctggtcgcattgggtcaccagcaaatcgcgctgttagcgggcc
ggtctgtgggtagttgtcataataaaagggtacttctgccatgcgctgaccgcacctcgtagaccagcgttaaccagtggtcggttagcgcgacaatcgcccgc

540 560 580 600 620 640

ApaI

cattaagtctgtctcggcgcgtctgcgctctggctggctggcataaatatctcactcgcgaatcaaatcagccgatagcggaacgggaaggcgcactggagtgcgatg
gtaattcaagacagagccgcgagacgcagaccgaccgacctattatagagtgagcgttagtttaagtgcgctatcgcttgccttcgcctcgcctcagcgtac

660 680 700 720 740

BssHII

PauI

tccggtttcaacaacatgcaaatgctgaatgaggcatcgttcccactgcgatgctggttgccaacgatcagatggcgtggcgcaatgcgccattaccga
aggccaaaagtgtttggtacgtttacgacttactcccgtagcaagggtgacgctacgaccaacggttgctagtctaccgcgaccgcggttacgcgcggtaatggct

760 780 800 820 840

Eco32I
EcoRV
KspAI
HpaI

gtccgggctgcggttggtgcgatatactcggtagtgggatacgcgataccgaagacagctcatgttatatcccggcgttaaccaccatcaaacaggattttcgcc
caggccccgacgcgcaaccacgcctatagagccatcacccatgctgctatggcttctgtcagatacaatataggcggcaattggtggtagtttgcctaaaagcgg

860 880 900 920 940 960

Esp3I
BsmBI

tgctggggcaaaccagcgtggaccgcttctgcaactctctcagggccaggcggggaagggaatcagctgttgcccgtctcactggtgaaaagaaaaaccaccctg
acgaccccgtttggtcgcacctggcgaacgacgttgagagagtgcccggctccgcaacttcccgttagtcgacaacgggcagagtgaccacttttctttttggtgggac

980 1,000 1,020 1,040 1,060

PluTI
SfoI
EheI
NarI
SspDI
KasI

gcgccaatacgcgaaccgcctctccccgcgcttggccgattcattaatgcagctggcacgacaggtttcccgactggaaagcgggcagtgagcgcgaacgcaatta
cgcgggttatgcttggcggagaggggcgcgcaaccggctaagtaattacgtcgaccgtgctgtccaaagggtgacctttcgcccgtcactcgcgttgcgttaat

1,080 1,100 1,120 1,140 1,160

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tacattcaatcgagtgagtaatccgtgttaagagtacaaactgtcgaatagtagctgacgtgccacgtggttacgaagaccgagtcctcgttagccttcgacacc

1,180 1,200 1,220 1,240 1,260 1,280

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ataccgacacgtccagcatttagtgacgtattaagcacagcgagttccgcgtgagggcaagacctattacaaaaacgcggctgtagattgccaagaccgttata

1,300 1,320 1,340 1,360 1,380

tctgaaatgagctgttgacaattaatcatcggctcgataatgtgtggaattgtgagcggataacaatttcacacaggaacagccagtcctgttaggtgtttcac
agactttactcgacaactgttaattagtagccgagcatattacacaccttaactcgcctattgttaaagtgtctcttctgctcagcgaatccacaaaagt

LacO

1,400 1,420 1,440 1,460 1,480

NdeI

gagcacttcaccaacaaggaccatagcatATGaaaatcgaagaaggtaaaactggtaactcggattaacggcgataaaggctataacggtctcgtggaagtgcgtaag
ctcgtggaagtgggtgttctctggtatcgtatTACtttagcttcttccatttgaccattagacctaatgcccgtatttccgatattgccagagcgacttcagccattc

2 4 6 8 10 12 14 16 18 20 22 24 26

M K I E E G K L V I W I N G D K G Y N G L A E V G K

MBP

1,500 1,520 1,540 1,560 1,580 1,600



















