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attcaacttg ctagtgttaa atcattgttg ctatcgatca ttaaattaaa aaaagaagaa 6780
cgagaaagct atataaaggc gctgacagct tcgtttaatt tagaacgtac atttattcaa 6840
gaaactctaa acaaattggc agaacgcccc aaaacggacc cacaactcga tttgtttagc 6900
tacgatacag gctgaaaata aaacccgcac tatgccatta catttatatc tatgatacgt 6960
gtttgttttt ctttgctggc tagcttaatt gcttatattt acctgcaata aaggatttct 7020
tacttccatt atactcccat tttccaaaaa catacgggga acacgggaac ttattgtaca 7080
ggccacctca tagttaatgg tttcgagcct tcctgcaatc tcatccatgg aaatatattc 7140
atccccctgc cggcctatta atgtgacttt tgtgcccggc ggatattcct gatccagctc 7200
caccataaat tggtccatgc aaattcggcc ggcaattttc aggcgttttc ccttcacaag 7260

gatgtcggtc cctttcaatt ttcggagcca gccgtccgca tagcctacag gcaccgtccc 7320

gatccatgtg tctttttccg ctgtgtactc ggctccgtag ctgacgctct cgccttttct 7380

gatcagtttg acatgtgaca gtgtcgaatg cagggtaaat gccggacgca gctgaaacgg 7440

tatctcgtcc gacatgtcag cagacgggcg aaggccatac atgccgatgc cgaatctgac 7500

tgcattaaaa aagccttttt tcagccggag tccagcggcg ctgttcgcgc agtggaccat 7560

tagattcttt aacggcagcg gagcaatcag ctctttaaag cgctcaaact gcattaagaa 7620

atagcctctt tctttttcat ccgctgtcgc aaaatgggta aataccccct tgcactttaa 7680

acgagggttg cggtcaagaa ttgccatcac gttctgaact tcttcctctg tttttacacc 7740

aagtctgttc atccccgtat cgaccttcag atgaaaatga agagaacctt ttttcgtgtg 7800

gcgggctgcc tcctgaagcc attcaacaga ataacctgtt aaggtcacgt catactcagc 7860

agcgattgcc acatactccg ggggaaccgc gccaagcacc aatataggcg ccttcaatcc 7920

ctttttgcgc agtgaaatcg cttcatccaa aatggccacg gccaagcatg aagcacctgc 7980

gtcaagagca gcctttgctg tttctgcatc accatgcccg taggcgtttg ctttcacaac 8040

tgccatcaag tggacatgtt caccgatatg ttttttcata ttgctgacat tttcctttat 8100

cacggacaag tcaatttccg cccacgtatc tctgtaaaaa ggttttgtgc tcatggaaaa 8160

ctcctctctt ttttcagaaa atcccagtac gtaattaagt atttgagaat taattttata 8220

ttgattaata ctaagtttac ccagttttca cctaaaaaac aaatgatgag ataatagctc 8280

caaaggctaa agaggactat accaactatt tgttaat 8317

<210> 3
<211> 306
<212> DNA
<213> Human papillomavirus type 16

<400> 3
ctcgagcatg gagatacacc tacattgcat gaatatatgt tagatttgca accagagaca 60

actgatctct actgttatga gcaattaaat gacagctcag aggaggagga tgaaatagat 120

ggtccagctg gacaagcaga accggacaga gcccattaca atattgtaac cttttgttgc 180

aagtgtgact ctacgcttcg gttgtgcgta caaagcacac acgtagacat tcgtactttg 240

gaagacctgt taatgggcac actaggaatt gtgtgcccca tctgttctca gaaaccataa 300

actagt 306

<210> 4
<211> 1297
<212> DNA
<213> Artificial Sequence

<220>
<223> chimeric Her2-neu

<400> 4
ctagtggtga tggtgatgat ggagctcaga tctgtctaag aggcagccat agggcataag 60

ctgtgtcacc agctgcaccg tggatgtcag gcagatgccc agaaggcggg agacatatgg 120

ggagcccaca ccagccatca cgtatgcttc gtctaagatt tctttgttgg ctttggggga 180

tgtgttttcc ctcaacactt tgatggccac tggaattttc acattctccc catcagggat 240

ccagatgccc ttgtagactg tgccaaaagc gccagatcca agcaccttca ccttcctcag 300

ctccgtctct ttcaggatcc gcatctgcgc ctggttgggc atcgctccgc taggtgtcag 360

cggctccacc agctccgttt cctgcagcag tctccgcatc gtgtacttcc ggatcttctg 420

ctgccctcgg gcgcacagct ggtggcaggc caggccctcg cccacacact cgtcctctgg 480

ccggttggca gtgtggagca gagcttggtg cgggttccga aagagctggt cccagggcac 540

cgtgtgcacg aagcagaggt gggtgttatg gtggatgagg gccagtccac tgcccagttc 600

cctcagtgag cgcagcccca gccagctgat gcccagccct tgcagggtca gcgagtaggc 660

gccattgtgc agaattcgtc cccggattac ttgcaggttc tggaagacgc tgaggtcagg 720

caggctgtcc ggccatgctg agatgtatag gtaacctgtg atctcttcca gagtctcaaa 780

cacttggagc tgctctggct ggagcggggc agtgttggag gctgggtccc catcaaagct 840

ctccggcaga aatgccaggc tcccaaagat cttcttgcag ccagcaaact cctggatatt 900

cttccacaaa atcgtgtcct ggtagcagag ctgggggttc cgctggatca agacccctcc 960

tttcaagatc tctgtgaggc ttcgaagctg cagctcccgc aggcctcctg gggaggcccc 1020

tgtgacaggg gtggtattgt tcagcgggtc tccattgtct agcacggcca gggcatagtt 1080

gtcctcaaag agctgggtgc ctcgcacaat ccgcagcctc tgcagtggga cctgcctcac 1140

ttggttgtga gcgatgagca cgtagccctg cacctcctgg atatcctgca ggaaggacag 1200

gctggcattg gtgggcaggt aggtgagttc caggtttccc tgcaccacct ggcagccctg 1260

gtagaggtgg cggagcatgt ccaggtgggt tctagat 1297

<210> 5
<211> 1329
<212> DNA
<213> Artificial Sequence

<220>
<223> Listeriolysin-O

<400> 5
atgaaaaaaa taatgctagt ttttattaca cttatattag ttagtctacc aattgcgcaa 60

caaactgaag caaaggatgc atctgcattc aataaagaaa attcaatttc atccatggca 120

ccaccagcat ctccgcctgc aagtcctaag acgccaatcg aaaagaaaca cgcggatgaa 180

atcgataagt atatacaagg attggattac aataaaaaca atgtattagt ataccacgga 240

gatgcagtga caaatgtgcc gccaagaaaa ggttacaaag atggaaatga atatattgtt 300

gtggagaaaa agaagaaatc catcaatcaa aataatgcag acattcaagt tgtgaatgca 360

atttcgagcc taacctatcc aggtgctctc gtaaaagcga attcggaatt agtagaaaat 420

caaccagatg ttctccctgt aaaacgtgat tcattaacac tcagcattga tttgccaggt 480

atgactaatc aagacaataa aatagttgta aaaaatgcca ctaaatcaaa cgttaacaac 540

gcagtaaata cattagtgga aagatggaat gaaaaatatg ctcaagctta tccaaatgta 600

agtgcaaaaa ttgattatga tgacgaaatg gcttacagtg aatcacaatt aattgcgaaa 660

tttggtacag catttaaagc tgtaaataat agcttgaatg taaacttcgg cgcaatcagt 720

gaagggaaaa tgcaagaaga agtcattagt tttaaacaaa tttactataa cgtgaatgtt 780

aatgaaccta caagaccttc cagatttttc ggcaaagctg ttactaaaga gcagttgcaa 840

gcgcttggag tgaatgcaga aaatcctcct gcatatatct caagtgtggc gtatggccgt 900

caagtttatt tgaaattatc aactaattcc catagtacta aagtaaaagc tgcttttgat 960

gctgccgtaa gcggaaaatc tgtctcaggt gatgtagaac taacaaatat catcaaaaat 1020

tcttccttca aagccgtaat ttacggaggt tccgcaaaag atgaagttca aatcatcgac 1080

ggcaacctcg gagacttacg cgatattttg aaaaaaggcg ctacttttaa tcgagaaaca 1140

ccaggagttc ccattgctta tacaacaaac ttcctaaaag acaatgaatt agctgttatt 1200

aaaaacaact cagaatatat tgaaacaact tcaaaagctt atacagatgg aaaaattaac 1260

atcgatcact ctggaggata cgttgctcaa ttcaacattt cttgggatga agtaaattat 1320

gatctcgag 1329

<210> 6
<211> 442
<212> PRT
<213> Artificial Sequence

<220>
<223> Listeriolysin-O

<400> 6

Met Lys Lys Ile Met Leu Val Phe Ile Thr Leu Ile Leu Val Ser Leu
1 5 10 15

Pro Ile Ala Gln Gln Thr Glu Ala Lys Asp Ala Ser Ala Phe Asn Lys
20 25 30

Glu Asn Ser Ile Ser Ser Met Ala Pro Pro Ala Ser Pro Pro Ala Ser
35 40 45

Pro Lys Thr Pro Ile Glu Lys Lys His Ala Asp Glu Ile Asp Lys Tyr
50 55 60

```
Ile Gln Gly Leu Asp Tyr Asn Lys Asn Asn Val Leu Val Tyr His Gly
65                  70                  75                  80

Asp Ala Val Thr Asn Val Pro Pro Arg Lys Gly Tyr Lys Asp Gly Asn
                85                  90                  95

Glu Tyr Ile Val Val Glu Lys Lys Lys Lys Ser Ile Asn Gln Asn Asn
            100                 105                 110

Ala Asp Ile Gln Val Val Asn Ala Ile Ser Ser Leu Thr Tyr Pro Gly
        115                 120                 125

Ala Leu Val Lys Ala Asn Ser Glu Leu Val Glu Asn Gln Pro Asp Val
    130                 135                 140

Leu Pro Val Lys Arg Asp Ser Leu Thr Leu Ser Ile Asp Leu Pro Gly
145                 150                 155                 160

Met Thr Asn Gln Asp Asn Lys Ile Val Val Lys Asn Ala Thr Lys Ser
                165                 170                 175

Asn Val Asn Asn Ala Val Asn Thr Leu Val Glu Arg Trp Asn Glu Lys
            180                 185                 190

Tyr Ala Gln Ala Tyr Pro Asn Val Ser Ala Lys Ile Asp Tyr Asp Asp
        195                 200                 205

Glu Met Ala Tyr Ser Glu Ser Gln Leu Ile Ala Lys Phe Gly Thr Ala
    210                 215                 220

Phe Lys Ala Val Asn Asn Ser Leu Asn Val Asn Phe Gly Ala Ile Ser
225                 230                 235                 240

Glu Gly Lys Met Gln Glu Glu Val Ile Ser Phe Lys Gln Ile Tyr Tyr
                245                 250                 255

Asn Val Asn Val Asn Glu Pro Thr Arg Pro Ser Arg Phe Phe Gly Lys
            260                 265                 270

Ala Val Thr Lys Glu Gln Leu Gln Ala Leu Gly Val Asn Ala Glu Asn
        275                 280                 285

Pro Pro Ala Tyr Ile Ser Ser Val Ala Tyr Gly Arg Gln Val Tyr Leu
    290                 295                 300

Lys Leu Ser Thr Asn Ser His Ser Thr Lys Val Lys Ala Ala Phe Asp
305                 310                 315                 320
```

```
Ala Ala Val Ser Gly Lys Ser Val Ser Gly Asp Val Glu Leu Thr Asn
                325                 330                 335

Ile Ile Lys Asn Ser Ser Phe Lys Ala Val Ile Tyr Gly Gly Ser Ala
            340                 345                 350

Lys Asp Glu Val Gln Ile Ile Asp Gly Asn Leu Gly Asp Leu Arg Asp
        355                 360                 365

Ile Leu Lys Lys Gly Ala Thr Phe Asn Arg Glu Thr Pro Gly Val Pro
    370                 375                 380

Ile Ala Tyr Thr Thr Asn Phe Leu Lys Asp Asn Glu Leu Ala Val Ile
385                 390                 395                 400

Lys Asn Asn Ser Glu Tyr Ile Glu Thr Thr Ser Lys Ala Tyr Thr Asp
                405                 410                 415

Gly Lys Ile Asn Ile Asp His Ser Gly Gly Tyr Val Ala Gln Phe Asn
            420                 425                 430

Ile Ser Trp Asp Glu Val Asn Tyr Asp Leu
        435                 440
```

<210> 7
<211> 390
<212> PRT
<213> Artificial Sequence

<220>
<223> actA

<400> 7

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Met Arg Ala Met Met Val Val Phe Ile Thr Ala Asn Cys Ile Thr Ile
1               5                   10                  15

Asn Pro Asp Ile Ile Phe Ala Ala Thr Asp Ser Glu Asp Ser Ser Leu
            20                  25                  30

Asn Thr Asp Glu Trp Glu Glu Glu Lys Thr Glu Glu Gln Pro Ser Glu
        35                  40                  45

Val Asn Thr Gly Pro Arg Tyr Glu Thr Ala Arg Glu Val Ser Ser Arg
    50                  55                  60

Asp Ile Lys Glu Leu Glu Lys Ser Asn Lys Val Arg Asn Thr Asn Lys
65                  70                  75                  80

Ala Asp Leu Ile Ala Met Leu Lys Glu Lys Ala Glu Lys Gly Pro Asn
                85                  90                  95
```

```
Ile Asn Asn Asn Asn Ser Glu Gln Thr Glu Asn Ala Ala Ile Asn Glu
            100                 105                 110

Glu Ala Ser Gly Ala Asp Arg Pro Ala Ile Gln Val Glu Arg Arg His
        115                 120                 125

Pro Gly Leu Pro Ser Asp Ser Ala Ala Glu Ile Lys Lys Arg Arg Lys
    130                 135                 140

Ala Ile Ala Ser Ser Asp Ser Glu Leu Glu Ser Leu Thr Tyr Pro Asp
145                 150                 155                 160

Lys Pro Thr Lys Val Asn Lys Lys Lys Val Ala Lys Glu Ser Val Ala
                165                 170                 175

Asp Ala Ser Glu Ser Asp Leu Asp Ser Ser Met Gln Ser Ala Asp Glu
            180                 185                 190

Ser Ser Pro Gln Pro Leu Lys Ala Asn Gln Gln Pro Phe Phe Pro Lys
        195                 200                 205

Val Phe Lys Lys Ile Lys Asp Ala Gly Lys Trp Val Arg Asp Lys Ile
    210                 215                 220

Asp Glu Asn Pro Glu Val Lys Lys Ala Ile Val Asp Lys Ser Ala Gly
225                 230                 235                 240

Leu Ile Asp Gln Leu Leu Thr Lys Lys Lys Ser Glu Glu Val Asn Ala
                245                 250                 255

Ser Asp Phe Pro Pro Pro Pro Thr Asp Glu Glu Leu Arg Leu Ala Leu
            260                 265                 270

Pro Glu Thr Pro Met Leu Leu Gly Phe Asn Ala Pro Ala Thr Ser Glu
        275                 280                 285

Pro Ser Ser Phe Glu Phe Pro Pro Pro Pro Thr Asp Glu Glu Leu Arg
    290                 295                 300

Leu Ala Leu Pro Glu Thr Pro Met Leu Leu Gly Phe Asn Ala Pro Ala
305                 310                 315                 320

Thr Ser Glu Pro Ser Ser Phe Glu Phe Pro Pro Pro Pro Thr Glu Asp
                325                 330                 335

Glu Leu Glu Ile Ile Arg Glu Thr Ala Ser Ser Leu Asp Ser Ser Phe
            340                 345                 350
```

```
Thr Arg Gly Asp Leu Ala Ser Leu Arg Asn Ala Ile Asn Arg His Ser
        355                 360                 365

Gln Asn Phe Ser Asp Phe Pro Pro Ile Pro Thr Glu Glu Glu Leu Asn
    370                 375                 380

Gly Arg Gly Gly Arg Pro
385                 390


<210>  8
<211>  1170
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  actA

<400>  8

Ala Thr Gly Cys Gly Thr Gly Cys Gly Ala Thr Gly Ala Thr Gly Gly
1               5                   10                  15

Thr Gly Gly Thr Thr Thr Thr Cys Ala Thr Thr Ala Cys Thr Gly Cys
            20                  25                  30

Cys Ala Ala Thr Thr Gly Cys Ala Thr Thr Ala Cys Gly Ala Thr Thr
        35                  40                  45

Ala Ala Cys Cys Cys Cys Gly Ala Cys Ala Thr Ala Ala Thr Ala Thr
    50                  55                  60

Thr Thr Gly Cys Ala Gly Cys Gly Ala Cys Ala Gly Ala Thr Ala Gly
65                  70                  75                  80

Cys Gly Ala Ala Gly Ala Thr Thr Cys Thr Ala Gly Thr Cys Thr Ala
                85                  90                  95

Ala Ala Cys Ala Cys Ala Gly Ala Thr Gly Ala Ala Thr Gly Gly Gly
            100                 105                 110

Ala Ala Gly Ala Ala Gly Ala Ala Ala Ala Ala Ala Cys Ala Gly Ala
        115                 120                 125

Ala Gly Ala Gly Cys Ala Ala Cys Cys Ala Ala Gly Cys Gly Ala Gly
    130                 135                 140

Gly Thr Ala Ala Ala Thr Ala Cys Gly Gly Gly Ala Cys Cys Ala Ala
145                 150                 155                 160
```

```
Gly Ala Thr Ala Cys Gly Ala Ala Ala Cys Thr Gly Cys Ala Cys Gly
                165                 170                 175

Thr Gly Ala Ala Gly Thr Ala Ala Gly Thr Thr Cys Ala Cys Gly Thr
            180                 185                 190

Gly Ala Thr Ala Thr Thr Ala Ala Ala Gly Ala Ala Cys Thr Ala Gly
        195                 200                 205

Ala Ala Ala Ala Ala Thr Cys Gly Ala Ala Thr Ala Ala Ala Gly Thr
    210                 215                 220

Gly Ala Gly Ala Ala Ala Thr Ala Cys Gly Ala Ala Cys Ala Ala Ala
225                 230                 235                 240

Gly Cys Ala Gly Ala Cys Cys Thr Ala Ala Thr Ala Gly Cys Ala Ala
                245                 250                 255

Thr Gly Thr Thr Gly Ala Ala Ala Gly Ala Ala Ala Ala Ala Gly Cys
            260                 265                 270

Ala Gly Ala Ala Ala Ala Ala Gly Gly Thr Cys Cys Ala Ala Ala Thr
        275                 280                 285

Ala Thr Cys Ala Ala Thr Ala Ala Thr Ala Ala Cys Ala Ala Cys Ala
    290                 295                 300

Gly Thr Gly Ala Ala Cys Ala Ala Ala Cys Thr Gly Ala Gly Ala Ala
305                 310                 315                 320

Thr Gly Cys Gly Gly Cys Thr Ala Thr Ala Ala Ala Thr Gly Ala Ala
                325                 330                 335

Gly Ala Gly Gly Cys Thr Thr Cys Ala Gly Gly Ala Gly Cys Cys Gly
            340                 345                 350

Ala Cys Cys Gly Ala Cys Cys Ala Gly Cys Thr Ala Thr Ala Cys Ala
        355                 360                 365

Ala Gly Thr Gly Gly Ala Gly Cys Gly Thr Cys Gly Thr Cys Ala Thr
    370                 375                 380

Cys Cys Ala Gly Gly Ala Thr Thr Gly Cys Cys Ala Thr Cys Gly Gly
385                 390                 395                 400

Ala Thr Ala Gly Cys Gly Cys Ala Gly Cys Gly Gly Ala Ala Ala Thr
                405                 410                 415
```

```
Thr Ala Ala Ala Ala Ala Ala Ala Gly Ala Ala Gly Gly Ala Ala Ala
            420                 425                 430

Gly Cys Cys Ala Thr Ala Gly Cys Ala Thr Cys Ala Thr Cys Gly Gly
        435                 440                 445

Ala Thr Ala Gly Thr Gly Ala Gly Cys Thr Thr Gly Ala Ala Ala Gly
    450                 455                 460

Cys Cys Thr Thr Ala Cys Thr Thr Ala Thr Cys Cys Gly Gly Ala Thr
465                 470                 475                 480

Ala Ala Ala Cys Cys Ala Ala Cys Ala Ala Ala Ala Gly Thr Ala Ala
                485                 490                 495

Ala Thr Ala Ala Gly Ala Ala Ala Ala Ala Ala Gly Thr Gly Gly Cys
            500                 505                 510

Gly Ala Ala Ala Gly Ala Gly Thr Cys Ala Gly Thr Thr Gly Cys Gly
        515                 520                 525

Gly Ala Thr Gly Cys Thr Thr Cys Thr Gly Ala Ala Ala Gly Thr Gly
    530                 535                 540

Ala Cys Thr Thr Ala Gly Ala Thr Thr Cys Thr Ala Gly Cys Ala Thr
545                 550                 555                 560

Gly Cys Ala Gly Thr Cys Ala Gly Cys Ala Gly Ala Thr Gly Ala Gly
                565                 570                 575

Thr Cys Thr Thr Cys Ala Cys Cys Ala Cys Ala Ala Cys Cys Thr Thr
            580                 585                 590

Thr Ala Ala Ala Ala Gly Cys Ala Ala Ala Cys Cys Ala Ala Cys Ala
        595                 600                 605

Ala Cys Cys Ala Thr Thr Thr Thr Thr Cys Cys Cys Thr Ala Ala Ala
    610                 615                 620

Gly Thr Ala Thr Thr Thr Ala Ala Ala Ala Ala Ala Ala Thr Ala Ala
625                 630                 635                 640

Ala Ala Gly Ala Thr Gly Cys Gly Gly Gly Gly Ala Ala Ala Thr Gly
                645                 650                 655

Gly Gly Thr Ala Cys Gly Thr Gly Ala Thr Ala Ala Ala Ala Thr Cys
            660                 665                 670
```

```
Gly Ala Cys Gly Ala Ala Ala Ala Thr Cys Cys Thr Gly Ala Ala Gly
        675                 680                 685

Thr Ala Ala Ala Gly Ala Ala Ala Gly Cys Gly Ala Thr Thr Gly Thr
    690                 695                 700

Thr Gly Ala Thr Ala Ala Ala Ala Gly Thr Gly Cys Ala Gly Gly Gly
705                 710                 715                 720

Thr Thr Ala Ala Thr Thr Gly Ala Cys Cys Ala Ala Thr Thr Ala Thr
                725                 730                 735

Thr Ala Ala Cys Cys Ala Ala Ala Ala Ala Gly Ala Ala Ala Ala Gly
            740                 745                 750

Thr Gly Ala Ala Gly Ala Gly Gly Thr Ala Ala Ala Thr Gly Cys Thr
        755                 760                 765

Thr Cys Gly Gly Ala Cys Thr Thr Cys Cys Cys Gly Cys Cys Ala Cys
    770                 775                 780

Cys Ala Cys Cys Thr Ala Cys Gly Gly Ala Thr Gly Ala Ala Gly Ala
785                 790                 795                 800

Gly Thr Thr Ala Ala Gly Ala Cys Thr Thr Gly Cys Thr Thr Thr Gly
                805                 810                 815

Cys Cys Ala Gly Ala Gly Ala Cys Ala Cys Cys Ala Ala Thr Gly Cys
            820                 825                 830

Thr Thr Cys Thr Thr Gly Gly Thr Thr Thr Thr Ala Ala Thr Gly Cys
        835                 840                 845

Thr Cys Cys Thr Gly Cys Thr Ala Cys Ala Thr Cys Ala Gly Ala Ala
    850                 855                 860

Cys Cys Gly Ala Gly Cys Thr Cys Ala Thr Thr Cys Gly Ala Ala Thr
865                 870                 875                 880

Thr Thr Cys Cys Ala Cys Cys Ala Cys Cys Ala Cys Cys Thr Ala Cys
                885                 890                 895

Gly Gly Ala Thr Gly Ala Ala Gly Ala Gly Thr Thr Ala Ala Gly Ala
            900                 905                 910

Cys Thr Thr Gly Cys Thr Thr Thr Gly Cys Cys Ala Gly Ala Gly Ala
        915                 920                 925
```

```
Cys Gly Cys Cys Ala Ala Thr Gly Cys Thr Thr Cys Thr Thr Gly Gly
    930                 935                 940

Thr Thr Thr Thr Ala Ala Thr Gly Cys Thr Cys Cys Thr Gly Cys Thr
945                 950                 955                 960

Ala Cys Ala Thr Cys Gly Gly Ala Ala Cys Cys Gly Ala Gly Cys Thr
                965                 970                 975

Cys Gly Thr Thr Cys Gly Ala Ala Thr Thr Thr Cys Cys Ala Cys Cys
            980                 985                 990

Gly Cys Cys Thr Cys Cys Ala Ala  Cys Ala Gly Ala Ala  Gly Ala Thr
        995                 1000                1005

Gly Ala  Ala Cys Thr Ala Gly  Ala Ala Ala Thr Cys  Ala Thr Cys
    1010                1015                1020

Cys Gly  Gly Gly Ala Ala Ala  Cys Ala Gly Cys Ala  Thr Cys Cys
    1025                1030                1035

Thr Cys  Gly Cys Thr Ala Gly  Ala Thr Thr Cys Thr  Ala Gly Thr
    1040                1045                1050

Thr Thr  Thr Ala Cys Ala Ala  Gly Ala Gly Gly Gly  Gly Ala Thr
    1055                1060                1065

Thr Thr  Ala Gly Cys Thr Ala  Gly Thr Thr Thr Gly  Ala Gly Ala
    1070                1075                1080

Ala Ala  Thr Gly Cys Thr Ala  Thr Thr Ala Ala Thr  Cys Gly Cys
    1085                1090                1095

Cys Ala  Thr Ala Gly Thr Cys  Ala Ala Ala Ala Thr  Thr Thr Cys
    1100                1105                1110

Thr Cys  Thr Gly Ala Thr Thr  Thr Cys Cys Cys Ala  Cys Cys Ala
    1115                1120                1125

Ala Thr  Cys Cys Cys Ala Ala  Cys Ala Gly Ala Ala  Gly Ala Ala
    1130                1135                1140

Gly Ala  Gly Thr Thr Gly Ala  Ala Cys Gly Gly Gly  Ala Gly Ala
    1145                1150                1155

Gly Gly  Cys Gly Gly Thr Ala  Gly Ala Cys Cys Ala
    1160                1165                1170
```

<210> 9
<211> 669
<212> DNA
<213> Artificial Sequence

<220>
<223> actA

<400> 9
tttatcacgt acccatttcc ccgcatcttt tatttttta aatactttag ggaaaaatgg 60

tttttgattt gcttttaaag gttgtggtgt agactcgtct gctgactgca tgctagaatc 120

taagtcactt tcagaagcat ccacaactga ctctttcgcc acttttctct tatttgcttt 180

tgttggttta tctggataag taaggctttc aagctcacta tccgacgacg ctatggcttt 240

tcttcttttt ttaatttccg ctgcgctatc cgatgacaga cctggatgac gacgctccac 300

ttgcagagtt ggtcggtcga ctcctgaagc ctcttcattt atagccacat ttcctgtttg 360

ctcaccgttg ttattattgt tattcggacc tttctctgct tttgctttca acattgctat 420

taggtctgct ttgttcgtat ttttcacttt attcgatttt tctagttcct caatatcacg 480

tgaacttact tcacgtgcag tttcgtatct tggtcccgta tttacctcgc ttggctgctc 540

ttctgttttt tcttcttccc attcatctgt gtttagactg gaatcttcgc tatctgtcgc 600

tgcaaatatt atgtcggggt taatcgtaat gcagttggca gtaatgaaaa ctaccatcat 660

cgcacgcat 669

<210> 10
<211> 390
<212> PRT
<213> Artificial Sequence

<220>
<223> actA

<400> 10

Met Arg Ala Met Met Val Val Phe Ile Thr Ala Asn Cys Ile Thr Ile
1 5 10 15

Asn Pro Asp Ile Ile Phe Ala Ala Thr Asp Ser Glu Asp Ser Ser Leu
20 25 30

Asn Thr Asp Glu Trp Glu Glu Glu Lys Thr Glu Glu Gln Pro Ser Glu
35 40 45

Val Asn Thr Gly Pro Arg Tyr Glu Thr Ala Arg Glu Val Ser Ser Arg
50 55 60

Asp Ile Lys Glu Leu Glu Lys Ser Asn Lys Val Arg Asn Thr Asn Lys
65 70 75 80

```
Ala Asp Leu Ile Ala Met Leu Lys Glu Lys Ala Glu Lys Gly Pro Asn
                85                  90                  95

Ile Asn Asn Asn Asn Ser Glu Gln Thr Glu Asn Ala Ala Ile Asn Glu
            100                 105                 110

Glu Ala Ser Gly Ala Asp Arg Pro Ala Ile Gln Val Glu Arg Arg His
        115                 120                 125

Pro Gly Leu Pro Ser Asp Ser Ala Ala Glu Ile Lys Lys Arg Arg Lys
    130                 135                 140

Ala Ile Ala Ser Ser Asp Ser Glu Leu Glu Ser Leu Thr Tyr Pro Asp
145                 150                 155                 160

Lys Pro Thr Lys Val Asn Lys Lys Lys Val Ala Lys Glu Ser Val Ala
                165                 170                 175

Asp Ala Ser Glu Ser Asp Leu Asp Ser Ser Met Gln Ser Ala Asp Glu
            180                 185                 190

Ser Ser Pro Gln Pro Leu Lys Ala Asn Gln Gln Pro Phe Phe Pro Lys
        195                 200                 205

Val Phe Lys Lys Ile Lys Asp Ala Gly Lys Trp Val Arg Asp Lys Ile
    210                 215                 220

Asp Glu Asn Pro Glu Val Lys Lys Ala Ile Val Asp Lys Ser Ala Gly
225                 230                 235                 240

Leu Ile Asp Gln Leu Leu Thr Lys Lys Lys Ser Glu Glu Val Asn Ala
                245                 250                 255

Ser Asp Phe Pro Pro Pro Pro Thr Asp Glu Glu Leu Arg Leu Ala Leu
            260                 265                 270

Pro Glu Thr Pro Met Leu Leu Gly Phe Asn Ala Pro Ala Thr Ser Glu
        275                 280                 285

Pro Ser Ser Phe Glu Phe Pro Pro Pro Pro Thr Asp Glu Glu Leu Arg
    290                 295                 300

Leu Ala Leu Pro Glu Thr Pro Met Leu Leu Gly Phe Asn Ala Pro Ala
305                 310                 315                 320

Thr Ser Glu Pro Ser Ser Phe Glu Phe Pro Pro Pro Pro Thr Glu Asp
                325                 330                 335
```

```
Glu Leu Glu Ile Ile Arg Glu Thr Ala Ser Ser Leu Asp Ser Ser Phe
            340                 345                 350

Thr Arg Gly Asp Leu Ala Ser Leu Arg Asn Ala Ile Asn Arg His Ser
        355                 360                 365

Gln Asn Phe Ser Asp Phe Pro Pro Ile Pro Thr Glu Glu Glu Leu Asn
    370                 375                 380

Gly Arg Gly Gly Arg Pro
385                 390
```

<210> 11
<211> 1170
<212> DNA
<213> Artificial Sequence

<220>
<223> actA

<400> 11

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atgcgtgcga tgatggtggt tttcattact gccaattgca ttacgattaa ccccgacata       60

atatttgcag cgacagatag cgaagattct agtctaaaca cagatgaatg ggaagaagaa      120

aaaacagaag agcaaccaag cgaggtaaat acgggaccaa gatacgaaac tgcacgtgaa      180

gtaagttcac gtgatattaa agaactagaa aaatcgaata aagtgagaaa tacgaacaaa      240

gcagacctaa tagcaatgtt gaaagaaaaa gcagaaaaag gtccaaatat caataataac      300

aacagtgaac aaactgagaa tgcggctata aatgaagagg cttcaggagc cgaccgacca      360

gctatacaag tggagcgtcg tcatccagga ttgccatcgg atagcgcagc ggaaattaaa      420

aaaagaagga aagccatagc atcatcggat agtgagcttg aaagccttac ttatccggat      480

aaaccaacaa aagtaaataa gaaaaaagtg gcgaaagagt cagttgcgga tgcttctgaa      540

agtgacttag attctagcat gcagtcagca gatgagtctt caccacaacc tttaaaagca      600

aaccaacaac catttttccc taaagtattt aaaaaaataa aagatgcggg gaaatgggta      660

cgtgataaaa tcgacgaaaa tcctgaagta aagaaagcga ttgttgataa aagtgcaggg      720

ttaattgacc aattattaac caaaaagaaa agtgaagagg taaatgcttc ggacttcccg      780

ccaccaccta cggatgaaga gttaagactt gctttgccag agacaccaat gcttcttggt      840

tttaatgctc ctgctacatc agaaccgagc tcattcgaat ttccaccacc acctacggat      900

gaagagttaa gacttgcttt gccagagacg ccaatgcttc ttggttttaa tgctcctgct      960

acatcggaac cgagctcgtt cgaatttcca ccgcctccaa cagaagatga actagaaatc     1020

atccgggaaa cagcatcctc gctagattct agttttacaa gaggggattt agctagtttg     1080

agaaatgcta ttaatcgcca tagtcaaaat ttctctgatt tcccaccaat cccaacagaa     1140

gaagagttga acgggagagg cggtagacca                                      1170
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<210> 12
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Lys Glu Asn Ser Ile Ser Ser Met Ala Pro Pro Ala Ser Pro Pro Ala
1 5 10 15

Ser Pro Lys Thr Pro Ile Glu Lys Lys His Ala Asp Glu Ile Asp Lys
20 25 30

<210> 13
<211> 19
<212> PRT
<213> Listeria monocytogenes

<400> 13

Lys Glu Asn Ser Ile Ser Ser Met Ala Pro Pro Ala Ser Pro Pro Ala
1 5 10 15

Ser Pro Lys

<210> 14
<211> 14
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<213> Listeria monocytogenes

<400> 14

Lys Thr Glu Glu Gln Pro Ser Glu Val Asn Thr Gly Pro Arg
1 5 10

<210> 15
<211> 28
<212> PRT
<213> Listeria monocytogenes

<400> 15

Lys Ala Ser Val Thr Asp Thr Ser Glu Gly Asp Leu Asp Ser Ser Met
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Gln Ser Ala Asp Glu Ser Thr Pro Gln Pro Leu Lys
20 25

<210> 16
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<400> 16

Lys Asn Glu Glu Val Asn Ala Ser Asp Phe Pro Pro Pro Pro Thr Asp
1 5 10 15

Glu Glu Leu Arg
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<210> 17
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<213> Listeria monocytogenes

<400> 17

Arg Gly Gly Ile Pro Thr Ser Glu Glu Phe Ser Ser Leu Asn Ser Gly
1 5 10 15

Asp Phe Thr Asp Asp Glu Asn Ser Glu Thr Thr Glu Glu Glu Ile Asp
20 25 30

Arg

<210> 18
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<212> PRT
<213> Listeria monocytogenes

<400> 18

Lys Glu Ser Val Val Asp Ala Ser Glu Ser Asp Leu Asp Ser Ser Met
1 5 10 15

Gln Ser Ala Asp Glu Ser Thr Pro Gln Pro Leu Lys
20 25

<210> 19
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<213> Listeria monocytogenes

<400> 19

Lys Ser Glu Glu Val Asn Ala Ser Asp Phe Pro Pro Pro Pro Thr Asp
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Glu Glu Leu Arg
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<210> 20
<211> 33
<212> PRT
<213> Listeria monocytogenes

<400> 20

Arg Gly Gly Arg Pro Thr Ser Glu Glu Phe Ser Ser Leu Asn Ser Gly
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Asp Phe Thr Asp Asp Glu Asn Ser Glu Thr Thr Glu Glu Glu Ile Asp
20 25 30

Arg

<210> 21
<211> 19
<212> PRT
<213> Listeria monocytogenes

<400> 21

Arg Ser Glu Val Thr Ile Ser Pro Ala Glu Thr Pro Glu Ser Pro Pro
1 5 10 15

Ala Thr Pro

<210> 22
<211> 17
<212> PRT
<213> Streptococcus pyogenes

<400> 22

Lys Gln Asn Thr Ala Ser Thr Glu Thr Thr Thr Thr Asn Glu Gln Pro
1 5 10 15

Lys

<210> 23
<211> 17
<212> PRT
<213> Streptococcus equisimilis

<400> 23

Lys Gln Asn Thr Ala Asn Thr Glu Thr Thr Thr Thr Asn Glu Gln Pro
1 5 10 15

Lys

<210> 24
<211> 22
<212> PRT
<213> Artificial Sequence

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<223> E7 primer sequence

<400> 24

Gly Gly Cys Thr Cys Gly Ala Gly Cys Ala Thr Gly Gly Ala Gly Ala
1 5 10 15

Thr Ala Cys Ala Cys Cys
20

<210> 25
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> E7 primer sequence

<400> 25

Gly Gly Gly Gly Ala Cys Thr Ala Gly Thr Thr Thr Ala Thr Gly Gly
1 5 10 15

Thr Thr Thr Cys Thr Gly Ala Gly Ala Ala Cys Ala
20 25

<210> 26
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> hly promoter and gene fragment F primer

<400> 26

Gly Gly Gly Gly Gly Cys Thr Ala Gly Cys Cys Cys Thr Cys Cys Thr
1 5 10 15

Thr Thr Gly Ala Thr Thr Ala Gly Thr Ala Thr Ala Thr Thr Cys
20 25 30

<210> 27
<211> 28
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<213> Artificial Sequence

<220>
<223> hly promoter and gene fragment R primer

<400> 27

Cys Thr Cys Cys Cys Thr Cys Gly Ala Gly Ala Thr Cys Ala Thr Ala
1 5 10 15

Ala Thr Thr Thr Ala Cys Thr Thr Cys Ala Thr Cys
20 25

<210> 28
<211> 55
<212> PRT
<213> Artificial Sequence

<220>
<223> prfA gene amplification F primer

<400> 28

Gly Ala Cys Thr Ala Cys Ala Ala Gly Gly Ala Cys Gly Ala Thr Gly
1 5 10 15

Ala Cys Cys Gly Ala Cys Ala Ala Gly Thr Gly Ala Thr Ala Ala Cys
20 25 30

Cys Cys Gly Gly Gly Ala Thr Cys Thr Ala Ala Ala Thr Ala Ala Ala
35 40 45

Thr Cys Cys Gly Thr Thr Thr
50 55

<210> 29
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> prfA gene amplification R primer

<400> 29

Cys Cys Cys Gly Thr Cys Gly Ala Cys Cys Ala Gly Cys Thr Cys Thr
1 5 10 15

Thr Cys Thr Thr Gly Gly Thr Gly Ala Ala Gly
20 25

<210> 30
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> E7 F primer sequence

<400> 30

Gly Cys Gly Gly Ala Thr Cys Cys Cys Ala Thr Gly Gly Ala Gly Ala
1 5 10 15

Thr Ala Cys Ala Cys Cys Thr Ala Cys
20 25

<210> 31
<211> 22
<212> PRT
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<220>
<223> E7 R primer sequence

<400> 31

Gly Cys Thr Cys Thr Ala Gly Ala Thr Thr Ala Thr Gly Gly Thr Thr
1 5 10 15

Thr Cys Thr Gly Ala Gly
20

<210> 32
<211> 9
<212> PRT
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<220>
<223> (PE)-conjugated E7 peptide

<400> 32

Arg Ala His Tyr Asn Ile Val Thr Phe
1 5

<210> 33
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<212> PRT
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1 5 10 15

Thr Thr Gly Ala Thr Thr Ala Gly Thr Ala Thr Ala Thr Thr Cys
20 25 30

<210> 34
<211> 45
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<400> 34

Ala Thr Cys Thr Thr Cys Gly Cys Thr Ala Thr Cys Thr Gly Thr Cys
1 5 10 15

Gly Cys Cys Gly Cys Gly Gly Cys Gly Cys Gly Thr Gly Cys Thr Thr
            20   25   30

Cys Ala Gly Thr Thr Thr Gly Thr Thr Gly Cys Gly Cys
        35   40   45

<210> 35
<211> 45
<212> PRT
<213> Artificial Sequence

<220>
<223> ActA gene amplification F primer

<400> 35

Gly Cys Gly Cys Ala Ala Cys Ala Ala Ala Cys Thr Gly Ala Ala Gly
1   5   10   15

Cys Ala Gly Cys Gly Gly Cys Cys Gly Cys Gly Gly Cys Gly Ala Cys
            20   25   30

Ala Gly Ala Thr Ala Gly Cys Gly Ala Ala Gly Ala Thr
        35   40   45

<210> 36
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> ActA gene amplification R primer

<400> 36

Thr Gly Thr Ala Gly Gly Thr Gly Thr Ala Thr Cys Thr Cys Cys Ala
1   5   10   15

Thr Gly Cys Thr Cys Gly Ala Gly Ala Gly Cys Thr Ala Gly Gly Cys
            20   25   30

Gly Ala Thr Cys Ala Ala Thr Thr Thr Cys
        35   40

<210> 37
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> E7 F primer sequence

<400> 37

Gly Gly Ala Ala Thr Thr Gly Ala Thr Cys Gly Cys Cys Thr Ala Gly
1   5   10   15

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Cys Thr Cys Thr Cys Gly Ala Gly Cys Ala Thr Gly Gly Ala Gly Ala
            20                  25                  30

Thr Ala Cys Ala Cys Cys Thr Ala Cys Ala
        35                  40
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<210> 38
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> E7 R primer sequence

<400> 38

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Ala Ala Ala Cys Gly Gly Ala Thr Thr Thr Ala Thr Thr Thr Ala Gly
1               5                   10                  15

Ala Thr Cys Cys Cys Gly Gly Gly Thr Thr Ala Thr Gly Gly Thr Thr
            20                  25                  30

Thr Cys Thr Gly Ala Gly Ala Ala Cys Ala
        35                  40
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<210> 39
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> prfA gene amplification F primer

<400> 39

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Thr Gly Thr Thr Cys Thr Cys Ala Gly Ala Ala Ala Cys Cys Ala Thr
1               5                   10                  15

Ala Ala Cys Cys Cys Gly Gly Gly Ala Thr Cys Thr Ala Ala Ala Thr
            20                  25                  30

Ala Ala Ala Thr Cys Cys Gly Thr Thr Thr
        35                  40
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<210> 40
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<212> PRT
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<220>
<223> prfA gene amplification R primer

<400> 40

Gly Gly Gly Gly Gly Thr Cys Gly Ala Cys Cys Ala Gly Cys Thr Cys
1 5 10 15

Thr Thr Cys Thr Thr Gly Gly Thr Gly Ala Ala Gly
20 25

<210> 41
<211> 21
<212> DNA
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<220>
<223> dal gene forward primer

<400> 41
ccatggtgac aggctggcat c 21

<210> 42
<211> 27
<212> DNA
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<220>
<223> dal gene reverse primer

<400> 42
gctagcctaa tggatgtatt ttctagg 27

<210> 43
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<220>
<223> minimal p60 promoter sequence forward primer

<400> 43
ttaattaaca aatagttggt atagtcc 27

<210> 44
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<212> DNA
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<220>
<223> minimal p60 promoter sequence forward primer

<400> 44
gacgatgcca gcctgtcacc atggaaaact cctctc 36

<210> 45
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<220>
<223> truncated p60 promoter

<400> 45
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gtgaaaactg ggtaaactta gtattatcaa tataaaatta attctcaaat acttaattac 120

gtactgggat tttctgaaaa aagagaggag ttttcc 156

<210> 46
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<220>
<223> oriRep forward primer

<400> 46
ggcgccacta actcaacgct agtag 25

<210> 47
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<212> DNA
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<220>
<223> oriRep reverse primer

<400> 47
gctagccagc aaagaaaaac aaacacg 27

<210> 48
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<220>
<223> oriRep forward primer

<400> 48
gtcgacggtc accggcgcca ctaactcaac gctagtag 38

<210> 49
<211> 35
<212> DNA
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<220>
<223> oriRep reverse primer

<400> 49
ttaattaagc tagccagcaa agaaaaacaa acacg 35

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<220>
<223> LLO-E7 gene forward amplification primer

<400> 50
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<210> 51
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> LLO-E7 gene reverse amplification primer

<400> 51
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<210> 52
<211> 22
<212> DNA
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<220>
<223> Taqman primer-probe sets

<400> 52
gcaagtgtga ctctacgctt cg 22

<210> 53
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Taqman primer-probe sets

<400> 53
tgcccattaa caggtcttcc a 21

<210> 54
<211> 32
<212> DNA
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<220>
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<400> 54
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<210> 55
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<220>
<223> Taqman primer-probe sets

<400> 55
tgacatcgtt tgtgtttgag ctag 24

<210> 56
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<212> DNA
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<220>
<223> Taqman primer-probe sets

<400> 56
gcagcgctct ctataccagg tac 23

<210> 57
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<400> 57
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<210> 58
<211> 19
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<220>
<223> primer to verify deletion of ActA

<400> 58
tgggatggcc aagaaattc 19

<210> 59
<211> 22
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<220>
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<400> 59
ctaccatgtc ttccgttgct tg 22

<210> 60
<211> 1256
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tcgcttccac tcacagagga aggcgactgg ggcggagttc attataatag tggtatcccg 180

aataaagcag cctataatac tatcactaaa cttggaaaag aaaaaacaga acagctttat 240

tttcgcgcct taaagtacta tttaacgaaa aaatcccagt ttaccgatgc gaaaaaagcg 300

cttcaacaag cagcgaaaga tttatatggt gaagatgctt ctaaaaaagt tgctgaagct 360

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gacccatacg acgttaattc ttgcaatgtt agctattggc gtgttctctt taggggcgtt 720

tatcaaaatt attcaattaa gaaaaaataa ttaaaaacac agaacgaaag aaaaagtgag 780

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atagctcaag gaatatatga tgcggatcat aaaaatccat attatgatac tagtacattt 1140

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<223> Her-2-Chimera (F) primer

<400> 61
tgatctcgag acccacctgg acatgctc 28

<210> 62
<211> 49
<212> DNA
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<220>
<223> HerEC1-EC2F primer

<400> 62
ctaccaggac acgattttgt ggaagaatat ccaggagttt gctggctgc 49

<210> 63
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<210> 64
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<220>
<223> HerEC2-ICIF primer

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<210> 65
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<212> DNA
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<210> 66
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<223> Her-2-Chimera (R) primer

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<211> 28
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<223> Her-2-EC1(F) primer

<400> 67
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<210> 68
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<400> 68
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<223> pAdv164 sequence

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cgcttcctcg ctcactgact cgctacgctc ggtcgttcga ctgcggcgag cggaaatggc 180

ttacgaacgg ggcggagatt tcctggaaga tgccaggaag atacttaaca gggaagtgag 240

agggccgcgg caaagccgtt tttccatagg ctccgccccc ctgacaagca tcacgaaatc 300

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agaattaatt ttatattgat taatactaag tttacccagt tttcacctaa aaaacaaatg 7020

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<220>
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<400> 74

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<210> 75
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<220>
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<400> 76

Arg Leu Leu Gln Glu Thr Glu Leu Val
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<210> 78
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<223> reverse amplification primer actA promoter region

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<210> 79
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<212> DNA
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<223> chimera Her2/neu amplification F primer

<400> 79
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<210> 80
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<212> DNA
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<220>
<223> chimera Her2/neu amplification R primer

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atagggc 67

<210> 81
<211> 2015
<212> DNA
<213> Listeria monocytogenes

<400> 81
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ataaatactt ggagagtgag gtgtaatatg ggggcagctg atttttgggg tttcatatat 180

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aagtatatga aaatcctctt ttgtgtttct aaatttattt ttaaggagtg gagaatgttg 540

aaaaaaaata attggttaca aaatgcagta atagcaatgc tagtgttaat tgtaggtctg 600

tgcattaata tgggttctgg aacaaaagta caagctgaga gtattcaacg accaacgcct 660

attaaccaag tttttccaga tcccggccta gcgaatgcag tgaaacaaaa tttagggaag 720

caaagtgtta cagaccttgt atcacaaaag gaactatctg gagtacaaaa tttcaatgga 780

gataatagca acattcaatc tcttgcggga atgcaatttt tcactaattt aaaagaactt 840

catctatccc ataatcaaat aagtgacctt agtcctttaa aggatctaac taagttagaa 900

gagctatctg tgaatagaaa cagactgaaa aatttaaacg gaattccaag tgcttgttta 960

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aaacgatggg attcgtgcac gtgaagtaag attgatcgac caagacggtg aacaattagg 1920

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<212> DNA
<213> Artificial Sequence

<220>
<223> sequence of DNA that is cloned in the temperature sensitive plasmid, pKSV7 to create inl C deletion mutant

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atatatgtag tttcaagatt agccattgtt gcggcagtag tttacttctt atacttattg 240

agaaaaattg caaataaata gaaaaaaagc cttgtcaaac gaggcttttt ttatgcaaaa 300

aatacgacga atgaagccat gtgagacaat ttggaatagc agacaacaag gaaggtagaa 360

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cttatttttg ctaacatata agtatacaaa gggacataaa aaggttaaca gcgtttgtta 480

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<212> DNA
<213> Listeria monocytogenes

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tcgcttccac tcacagagga aggcgactgg ggcggagttc attataatag tggtatcccg 180

aataaagcag cctataatac tatcactaaa cttggaaaag aaaaaacaga acagctttat 240

tttcgcgcct taaagtacta tttaacgaaa aaatcccagt ttaccgatgc gaaaaaagcg 300

cttcaacaag cagcgaaaga tttatatggt gaagatgctt ctaaaaaagt tgctgaagct 360

tgggaagcag ttggggttaa ctgattaaca aatgttagag aaaaattaat tctccaagtg 420

atattcttaa aataattcat gaatattttt tcttatatta gctaattaag aagataacta 480

actgctaatc caatttttaa cggaacaaat tagtgaaaat gaaggccgaa ttttccttgt 540

tctaaaaagg ttgtattagc gtatcacgag gagggagtat aagtgggatt aaacagattt 600

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gacccatacg acgttaattc ttgcaatgtt agctattggc gtgttctctt taggggcgtt 720

tatcaaaatt attcaattaa gaaaaaataa ttaaaaacac agaacgaaag aaaaagtgag 780

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