SEQUENCE LISTING

<110> Ondek Pty Ltd

<120> Means of Controlloing Infection Persistence of Helicobacter Pylori

<130> P80568.PCT

<140> PCT/AU2011/000771
<141> 2011-06-24

<150> 2010902818
<151> 2010-06-25

<160> 71

<170> PatentIn version 3.5

<210> 1
<211> 569
<212> PRT
<213> Helicobacter pylori

<400> 1

Met Lys Lys Ile Ser Arg Lys Glu Tyr Val Ser Met Tyr Gly Pro Thr
1 5 10 15

Thr Gly Asp Lys Val Arg Leu Gly Asp Thr Asp Leu Ile Ala Glu Val
20 25 30

Glu His Asp Tyr Thr Ile Tyr Gly Glu Glu Leu Lys Phe Gly Gly Gly
35 40 45

Lys Thr Leu Arg Glu Gly Met Ser Gln Ser Asn Asn Pro Ser Lys Glu
50 55 60

Glu Leu Asp Leu Ile Ile Thr Asn Ala Leu Ile Val Asp Tyr Thr Gly
65 70 75 80

Ile Tyr Lys Ala Asp Ile Gly Ile Lys Asp Gly Lys Ile Ala Gly Ile
85 90 95

Gly Lys Gly Gly Asn Lys Asp Met Gln Asp Gly Val Lys Asn Asn Leu
100 105 110

Ser Val Gly Pro Ala Thr Glu Ala Leu Ala Gly Glu Gly Leu Ile Val
115 120 125

Thr Ala Gly Gly Ile Asp Thr His Ile His Phe Ile Ser Pro Gln Gln
130 135 140

Ile Pro Thr Ala Phe Ala Ser Gly Val Thr Thr Met Ile Gly Gly Gly
145 150 155 160

```
Thr Gly Pro Ala Asp Gly Thr Asn Ala Thr Thr Ile Thr Pro Gly Arg
                165                 170                 175

Arg Asn Leu Lys Trp Met Leu Arg Ala Ala Glu Glu Tyr Ser Met Asn
            180                 185                 190

Leu Gly Phe Leu Ala Lys Gly Asn Ala Ser Asn Asp Ala Ser Leu Ala
        195                 200                 205

Asp Gln Ile Glu Ala Gly Ala Ile Gly Phe Lys Ile His Glu Asp Trp
    210                 215                 220

Gly Thr Thr Pro Ser Ala Ile Asn His Ala Leu Asp Val Ala Asp Lys
225                 230                 235                 240

Tyr Asp Val Gln Val Ala Ile His Thr Asp Thr Leu Asn Glu Ala Gly
                245                 250                 255

Cys Val Glu Asp Thr Met Ala Ala Ile Ala Gly Arg Thr Met His Thr
            260                 265                 270

Phe His Thr Glu Gly Ala Gly Gly Gly His Ala Pro Asp Ile Ile Lys
        275                 280                 285

Val Ala Gly Glu His Asn Ile Leu Pro Ala Ser Thr Asn Pro Thr Ile
    290                 295                 300

Pro Phe Thr Val Asn Thr Glu Ala Glu His Met Asp Met Leu Met Val
305                 310                 315                 320

Cys His His Leu Asp Lys Ser Ile Lys Glu Asp Val Gln Phe Ala Asp
                325                 330                 335

Ser Arg Ile Arg Pro Gln Thr Ile Ala Ala Glu Asp Thr Leu His Asp
            340                 345                 350

Met Gly Ile Phe Ser Ile Thr Ser Ser Asp Ser Gln Ala Met Gly Arg
        355                 360                 365

Val Gly Glu Val Ile Thr Arg Thr Trp Gln Thr Ala Asp Lys Asn Lys
    370                 375                 380

Lys Glu Phe Gly Arg Leu Lys Glu Glu Lys Gly Asp Asn Asp Asn Phe
385                 390                 395                 400

Arg Ile Lys Arg Tyr Leu Ser Lys Tyr Thr Ile Asn Pro Ala Ile Ala
                405                 410                 415
```

```
His Gly Ile Ser Glu Tyr Val Gly Ser Val Glu Val Gly Lys Val Ala
            420                 425                 430

Asp Leu Val Leu Trp Ser Pro Ala Phe Phe Gly Val Lys Pro Asn Met
        435                 440                 445

Ile Ile Lys Gly Gly Phe Ile Ala Leu Ser Gln Met Gly Asp Ala Asn
    450                 455                 460

Ala Ser Ile Pro Thr Pro Gln Pro Val Tyr Tyr Arg Glu Met Phe Ala
465                 470                 475                 480

His His Gly Lys Ala Lys Tyr Asp Ala Asn Ile Thr Phe Val Ser Gln
                485                 490                 495

Ala Ala Tyr Asp Lys Gly Ile Lys Glu Glu Leu Gly Leu Glu Arg Gln
            500                 505                 510

Val Leu Pro Val Lys Asn Cys Arg Asn Ile Thr Lys Lys Asp Met Gln
        515                 520                 525

Phe Asn Asp Thr Thr Ala His Ile Glu Val Asn Pro Glu Thr Tyr His
    530                 535                 540

Val Phe Val Asp Gly Lys Glu Val Thr Ser Lys Pro Ala Asn Lys Val
545                 550                 555                 560

Ser Leu Ala Gln Leu Phe Ser Ile Phe
                565
```

<210> 2
<211> 1707
<212> DNA
<213> Helicobacter pylori

<400> 2

```
atgaaaaaaa ttagccgcaa agaatatgtg agcatgtatg gcccgaccac cggcgataaa       60

gtgcgcctgg gcgataccga tctgattgcg gaagtggaac atgattatac catttatggc      120

gaagaactga aatttggcgg cggcaaaacc ctgcgcgaag gcatgagcca gagcaacaac      180

ccgagcaaag aagaactgga tctgattatt accaacgcgc tgattgtgga ttataccggc      240

atttataaag cggatattgg cattaaagat ggcaaaattg cgggcattgg caaaggcggc      300

aacaaagata tgcaggatgg cgtgaaaaac aacctgagcg tgggcccggc gaccgaagcg      360

ctggcgggcg aaggcctgat tgtgaccgcg ggcggcattg atacccatat tcattttatt      420

agcccgcagc agattccgac cgcgtttgcg agcggcgtga ccaccatgat tggcggcggc      480

accggcccgg cggatggcac caacgcgacc accattaccc cgggccgccg caacctgaaa      540

tggatgctgc gcgcggcgga agaatatagc atgaacctgg gctttctggc gaaaggcaac      600
```

gcgagcaacg atgcgagcct ggcggatcag attgaagcgg gcgcgattgg ctttaaaatt 660

catgaagatt ggggcaccac cccgagcgcg attaaccatg cgctggatgt ggcggataaa 720

tatgatgtgc aggtggcgat tcataccgat accctgaacg aagcgggctg cgtggaagat 780

accatggcgg cgattgcggg ccgcaccatg catacctttc ataccgaagg cgcgggcggc 840

ggccatgcgc cggatattat taaagtggcg ggcgaacata acattctgcc ggcgagcacc 900

aacccgacca ttccgtttac cgtgaacacc gaagcggaac atatggatat gctgatggtg 960

tgccatcatc tggataaaag cattaaagaa gatgtgcagt ttgcggatag ccgcattcgc 1020

ccgcagacca ttgcggcgga agataccctg catgatatgg gcatttttag cattaccagc 1080

agcgatagcc aggcgatggg ccgcgtgggc gaagtgatta cccgcacctg gcagaccgcg 1140

gataaaaaca aaaaagaatt tggccgcctg aaagaagaaa aaggcgataa cgataacttt 1200

cgcattaaac gctatctgag caaatatacc attaacccgg cgattgcgca tggcattagc 1260

gaatatgtgg gcagcgtgga agtgggcaaa gtggcggatc tggtgctgtg gagcccggcg 1320

ttttttggcg tgaaaccgaa catgattatt aaaggcggct ttattgcgct gagccagatg 1380

ggcgatgcga acgcgagcat tccgaccccg cagccggtgt attatcgcga aatgtttgcg 1440

catcatggca aagcgaaata tgatgcgaac attacctttg tgagccaggc ggcgtatgat 1500

aaaggcatta aagaagaact gggcctggaa cgccaggtgc tgccggtgaa aaactgccgc 1560

aacattacca aaaaagatat gcagtttaac gataccaccg cgcatattga agtgaacccg 1620

gaaacctatc atgtgtttgt ggatggcaaa gaagtgacca gcaaaccggc gaacaaagtg 1680

agcctggcgc agctgtttag cattttt 1707

<210> 3
<211> 238
<212> PRT
<213> Helicobacter pylori

<400> 3

Met Lys Leu Thr Pro Lys Glu Leu Asp Lys Leu Met Leu His Tyr Ala
1 5 10 15

Gly Glu Leu Ala Lys Lys Arg Lys Glu Lys Gly Ile Lys Leu Asn Tyr
20 25 30

Val Glu Ala Val Ala Leu Ile Ser Ala His Ile Met Glu Glu Ala Arg
35 40 45

Ala Gly Lys Lys Thr Ala Ala Glu Leu Met Gln Glu Gly Arg Thr Leu
50 55 60

Leu Lys Pro Asp Asp Val Met Asp Gly Val Ala Ser Met Ile His Glu
65 70 75 80

```
Val Gly Ile Glu Ala Met Phe Pro Asp Gly Thr Lys Leu Val Thr Val
                85                  90                  95

His Thr Pro Ile Glu Ala Asn Gly Lys Leu Val Pro Gly Glu Leu Phe
            100                 105                 110

Leu Lys Asn Glu Asp Ile Thr Ile Asn Glu Gly Lys Lys Ala Val Ser
        115                 120                 125

Val Lys Val Lys Asn Val Gly Asp Arg Pro Val Gln Ile Gly Ser His
    130                 135                 140

Phe His Phe Phe Glu Val Asn Arg Cys Leu Asp Phe Asp Arg Glu Lys
145                 150                 155                 160

Thr Phe Gly Lys Arg Leu Asp Ile Ala Ser Gly Thr Ala Val Arg Phe
                165                 170                 175

Glu Pro Gly Glu Glu Lys Ser Val Glu Leu Ile Asp Ile Gly Gly Asn
            180                 185                 190

Arg Arg Ile Phe Gly Phe Asn Ala Leu Val Asp Arg Gln Ala Asp Asn
        195                 200                 205

Glu Ser Lys Lys Ile Ala Leu His Arg Ala Lys Glu Arg Gly Phe His
    210                 215                 220

Gly Ala Lys Ser Asp Asp Asn Tyr Val Lys Thr Ile Lys Glu
225                 230                 235
```

<210> 4
<211> 714
<212> DNA
<213> Helicobacter pylori

<400> 4

```
atgaaactga ccccgaaaga actggataaa ctgatgctgc attatgcggg cgaactggcg       60

aaaaaacgca aagaaaaagg cattaaactg aactatgtgg aagcggtggc gctgattagc      120

gcgcatatta tggaagaagc gcgcgcgggc aaaaaaaccg cggcggaact gatgcaggaa      180

ggccgcaccc tgctgaaacc ggatgatgtg atggatggcg tggcgagcat gattcatgaa      240

gtgggcattg aagcgatgtt tccggatggc accaaactgg tgaccgtgca taccccgatt      300

gaagcgaacg gcaaactggt gccgggcgaa ctgtttctga aaaacgaaga tattaccatt      360

aacgaaggca aaaaagcggt gagcgtgaaa gtgaaaaacg tgggcgatcg cccggtgcag      420

attggcagcc attttcattt ttttgaagtg aaccgctgcc tggattttga tcgcgaaaaa      480

acctttggca aacgcctgga tattgcgagc ggcaccgcgg tgcgctttga accgggcgaa      540
```

gaaaaaagcg tggaactgat tgatattggc ggcaaccgcc gcatttttgg ctttaacgcg 600

ctggtggatc gccaggcgga taacgaaagc aaaaaaattg cgctgcatcg cgcgaaagaa 660

cgcggctttc atggcgcgaa aagcgatgat aactatgtga aaaccattaa agaa 714

<210> 5
<211> 49
<212> DNA
<213> Artifical sequence

<400> 5
gtgtttaatc catagttata aagcatccca ttggcctcaa taggggtat 49

<210> 6
<211> 48
<212> DNA
<213> Artifical sequence

<400> 6
ttcaatagct ataaattatt taataagtaa cggtggcggt aaaaccct 48

<210> 7
<211> 52
<212> DNA
<213> Artifical sequence

<400> 7
ttcaatagct ataaattatt taataagtaa gtgagcttgg cgcaactctt ta 52

<210> 8
<211> 49
<212> DNA
<213> Artifical sequence

<400> 8
gtgtttaatc catagttata aagcatcgtg agcggtagtg tcgttgaat 49

<210> 9
<211> 27
<212> DNA
<213> Artifical sequence

<400> 9
gatgctttat aactatggat taaacac 27

<210> 10
<211> 30
<212> DNA
<213> Artifical sequence

<400> 10
ttacttatta aataatttat agctattgaa 30

<210> 11
<211> 81
<212> DNA

<213> Artifical sequence

<220>
<221> misc_feature
<222> (40)..(41)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (43)..(44)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (46)..(47)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (49)..(50)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (52)..(53)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (55)..(56)
<223> n is a, c, g, or t

<400> 11
ggcccttctt taggaaaaat ttcaaatctt tcaaagctvn nvnnvnnvnn vnnvnnggcc 60

tcaatagggg tatgcacggt t 81

<210> 12
<211> 82
<212> DNA
<213> Artifical sequence

<220>
<221> misc_feature
<222> (40)..(41)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (43)..(44)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (46)..(47)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (49)..(50)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (52)..(53)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (55)..(56)
<223> n is a, c, g, or t

<400> 12
ggcccttctt taggaaaaat ttcaaatctt tcaaagctvn nvnnvnnvnn vnnvnnctcc 60

ttaattgttt ttacatagtt gt 82

<210> 13
<211> 66
<212> DNA
<213> Artifical sequence

<400> 13
ggcccttctt taggaaaaat ttcaaatctt tcaaagctca tttcttactc cttaattgtt 60

tttaca 66

<210> 14
<211> 81
<212> DNA
<213> Artifical sequence

<220>
<221> misc_feature
<222> (40)..(41)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (43)..(44)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (46)..(47)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (49)..(50)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (52)..(53)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (55)..(56)
<223> n is a, c, g, or t

<400> 14
ggcccttctt taggaaaaat ttcaaatctt tcaaagctvn nvnnvnnvnn vnnvnngcca 60

tccacgaaca catggtaagt t 81

<210> 15
<211> 100
<212> DNA
<213> Artifical sequence

<400> 15
tttatcatcg tcatctttat aatctaagct aggcccagga tagctccctt ctttttcggt 60

taaccataag ctaggccctt ctttaggaaa aatttcaaat 100

<210> 16
<211> 100
<212> DNA
<213> Artifical sequence

<400> 16
atttgaaatt tttcctaaag aagggcctag cttatggtta accgaaaaag aagggagcta 60

tcctgggcct agcttagatt ataaagatga cgatgataaa 100

<210> 17
<211> 27
<212> DNA
<213> Artifical sequence

<400> 17
cgactttggt taacccgcaa atcccat 27

<210> 18
<211> 24
<212> DNA
<213> Artifical sequence

<400> 18
gggcgtggtg gattatgtgt atta 24

<210> 19
<211> 65
<212> DNA
<213> Artifical sequence

<220>
<221> misc_feature
<222> (25)..(26)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (28)..(29)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (31)..(32)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (34)..(35)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (37)..(38)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (40)..(41)
<223> n is a, c, g, or t

<400> 19
gattataaag atgacgatga taaannbnnb nnbnnbnnbn nbaatggtaa attagttcct 60

ggtga 65

<210> 20
<211> 65
<212> DNA
<213> Artifical sequence

<220>
<221> misc_feature
<222> (26)..(27)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (29)..(30)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (32)..(33)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (35)..(36)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (38)..(39)
<223> n is a, c, g, or t

<400> 20
tttatcatcg tcatctttat aatcvnnvnn vnnvnnvnnc tccttaattg tttttacata 60

gttgt 65

<210> 21
<211> 69
<212> DNA
<213> Artifical sequence

<220>

<221> misc_feature
<222> (25)..(26)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (28)..(29)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (31)..(32)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (34)..(35)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (37)..(38)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (40)..(41)
<223> n is a, c, g, or t

<400> 21
gattataaag atgacgatga taaannbnnb nnbnnbnnbn nbaaaaagat tagcagaaaa 60

gaatatgtt 69

<210> 22
<211> 67
<212> DNA
<213> Artifical sequence

<220>
<221> misc_feature
<222> (25)..(26)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (28)..(29)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (31)..(32)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (34)..(35)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (37)..(38)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (40)..(41)
<223> n is a, c, g, or t

<400> 22
gattataaag atgacgatga taaannbnnb nnbnnbnnbn nbaaagaagt aacttctaaa 60

ccagcca 67

<210> 23
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 23

Ile Glu Val Asn Pro Glu Thr Tyr His Val Phe Val Asp Gly Lys Glu
1 5 10 15

Val Thr Ser Lys Pro Ala Asn Lys Val Ser Leu Ala Gln Leu Phe Ser
20 25 30

Ile Phe

<210> 24
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 24

Ile Glu Val Asn Pro Glu Thr Tyr Lys Val Lys Val Asp Gly Asn Glu
1 5 10 15

Val Thr Ser His Ala Ala Asp Lys Leu Ser Leu Ala Gln Leu Tyr Asn
20 25 30

Leu Phe

<210> 25
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 25

Ile Glu Val Asn Pro Glu Thr Tyr Glu Val Arg Val Asn Asn Thr Lys
1 5 10 15

Ile Thr Ser Lys Pro Val Glu Lys Val Ser Leu Gly Gln Leu Tyr Cys
20 25 30

Leu Phe

<210> 26
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 26

Leu Thr Val Asp Pro Lys Ser Phe Glu Val Phe Leu Glu Gly Lys Leu
1 5 10 15

Cys Thr Ser Lys Pro Ala Ser Glu Leu Pro Leu Ala Gln Arg Tyr Thr
20 25 30

Phe Phe

<210> 27
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 27

Ile Glu Val Asp Pro Glu Thr Tyr Glu Val Lys Val Asp Gly Glu Ile
1 5 10 15

Ile Thr Cys Glu Pro Leu Lys Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 28
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 28

Ile Glu Ile Asp Pro Glu Thr Tyr Glu Val Lys Val Asp Gly Glu Met
1 5 10 15

Ile Thr Cys Lys Pro Phe Glu Glu Val Ala Leu Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 29
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 29

Ile Asp Val Asp Pro Gln Thr Tyr Glu Val Lys Val Asp Gly Gln Leu
1 5 10 15

Val Thr Cys Glu Pro Ala Glu Ile Val Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 30
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 30

Ile Thr Val Asn Pro Glu Asn Tyr Glu Val Arg Val Asp Gly Glu Lys
1 5 10 15

Ile Ile Cys Glu Pro Ala Thr His Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 31
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 31

Ile Asp Val Asp Pro Gln Thr Tyr Glu Val Lys Val Asp Gly Arg Leu
1 5 10 15

Ile Thr Cys Glu Pro Ala Glu Val Val Ala Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 32
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 32

Ile Glu Val Asn Pro Gln Thr Tyr Glu Val Lys Ile Asn Gly Glu Leu
1 5 10 15

Ile Ser Ser Lys Ser Val Asp Ser Leu Ala Leu Ala Arg Lys Tyr Phe

20 25 30

Met Ile

<210> 33
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 33

Leu Glu Val Asp Pro Gln Thr Tyr Glu Val Arg Ala Asp Gly Gln Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Glu Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 34
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 34

Ile Glu Val Asp Pro Gln Thr Tyr Glu Val Lys Val Asp Gly Lys Val
1 5 10 15

Ile Thr Cys Glu Ala Val Asp Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 35
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 35

Ile Glu Val Asn Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Glu Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 36

<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 36

Ile Glu Val Asp Pro Gln Thr Tyr Gln Val Lys Ala Asp Gly Gln Leu
1 5 10 15

Leu Trp Cys Glu Pro Ala Glu Val Leu Pro Leu Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 37
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 37

Met Glu Val Asp Pro Glu Thr Tyr His Val Arg Ala Asp Gly Glu Met
1 5 10 15

Leu Val Cys Glu Pro Ala Thr Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 38
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 38

Met Glu Val Asp Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Gln Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Glu Glu Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 39
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 39

Ile Glu Val Asp Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Ser Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 40
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 40

Ile Ser Val Asp Pro Glu Thr Tyr Asp Val Val Ala Asp Gly Ala Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Ala Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 41
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 41

Ile Glu Val Asp Ala Gln Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Glu Leu Pro Leu Thr Gln Arg Tyr Cys
20 25 30

Leu Phe

<210> 42
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 42

Ile Thr Val Asp Pro Glu Thr Tyr Gln Val Ile Ala Asn Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Lys Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 43
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 43

Ile Glu Val Asp Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 44
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 44

Met Glu Val Asp Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Val Cys Glu Pro Ala Asp Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 45
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 45

Ile Ser Val Asp Pro Glu Thr Tyr Gln Val Ile Ala Asp Gly Gln Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Lys Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 46
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 46

Ile Glu Val Asp Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Val Leu Pro Leu Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 47
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 47

Met Glu Val Asp Ser Gln Thr Tyr Glu Val Arg Ala Asn Gly Glu Leu
1 5 10 15

Leu Val Cys Glu Pro Ala Lys Val Leu Pro Leu Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 48
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 48

Ile Glu Val Asn Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Gln Pro Ala Glu Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 49
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 49

Ile Thr Val Asp Pro Gln Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Glu Glu Leu Pro Leu Ala Gln Leu Tyr Thr
20 25 30

Leu Phe

<210> 50
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 50

Ile Glu Val Asn Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Gln Pro Ala Glu Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 51
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 51

Ile Glu Val Asp Pro Gln Thr Tyr Glu Val Phe Ala Asn Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Glu Leu Leu Pro Leu Ala Gln Arg Tyr Leu
20 25 30

Leu Leu

<210> 52
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 52

Val Thr Val Asp Pro Glu Thr Tyr Gln Val Val Ala Asp Gly Gln Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Glu Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 53
<211> 34
<212> PRT

<213> Helicobacter pylori

<400> 53

Ile Thr Val Asp Pro Glu Thr Tyr Gln Val Val Ala Asp Gly Met Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Glu Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 54
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 54

Ile Glu Ile Asp Pro Lys Thr Tyr Gln Val Phe Ala Asp Gly Glu Glu
1 5 10 15

Leu Ser Cys Gln Pro Val Asp Tyr Val Pro Leu Gly Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 55
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 55

Ile Asp Val Asp Pro Gln Thr Tyr Gln Val Lys Ala Asp Gly Val Leu
1 5 10 15

Leu Trp Cys Glu Pro Ala Glu Thr Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 56
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 56

Met Glu Val Asp Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Arg Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Val Leu Pro Leu Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 57
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 57

Ile Ser Val Asp Pro Glu Thr Tyr Glu Val Phe Ser Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Leu Asn Glu Val Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Leu

<210> 58
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 58

Leu Thr Val Asp Pro Glu Thr Tyr Glu Val Thr Val Asp Gly Glu Lys
1 5 10 15

Val Thr Cys Glu Pro Ala Glu Val Leu Ala Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 59
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 59

Ile Glu Val Asp Ser Thr Tyr Glu Val Arg Ala Asp Gly Lys Gln Leu
1 5 10 15

Leu Val Cys Glu Pro Ala Thr Glu Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 60
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 60

Ile Glu Ile Asp Tyr Lys Thr Phe Glu Val Phe Val Asn Gly Asn Lys
1 5 10 15

Ile Asn Val Pro Pro Ala Val Ser Leu Asn Met Thr Arg Arg Tyr Asn
20 25 30

Leu Phe

<210> 61
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 61

Ile Gln Val Asp Pro Glu Thr Tyr Lys Val Thr Val Asp Gly Glu Asp
1 5 10 15

Val Thr Cys Glu Pro Ala Asp Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 62
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 62

Ile Thr Val Asp Pro Gln Thr Tyr Glu Val Phe Ala Asp Gly Val Leu
1 5 10 15

Leu Ser Cys Glu Pro Leu Glu Glu Val Pro Met Ala Gln Lys Tyr Phe
20 25 30

Leu Leu

<210> 63
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 63

Ile Glu Val Asp Pro Glu Thr Tyr Ala Val Arg Ala Asp Gly Glu Leu

1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Ser Leu Pro Leu Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 64
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 64

Ile Thr Val Asp Pro Gln Thr Tyr Asp Val Arg Val Asn Gly Glu Leu
1 5 10 15

Ile Thr Cys Glu Pro Ala Ala Glu Leu Pro Leu Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 65
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 65

Ile Thr Val Asp Pro Glu Thr Tyr Val Val Lys Ala Asp Gly Val His
1 5 10 15

Leu Val Cys Glu Pro Ala Thr Glu Leu Pro Leu Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 66
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 66

Ile Glu Val Asp Ser Glu Ser Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 67
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 67

Ile Gln Val Asn Pro Glu Thr Tyr Glu Val Arg Val Asn Gly Glu Leu
1 5 10 15

Val Thr Cys Glu Pro Val Asp Glu Leu Pro Leu Ala Gln Lys Tyr Phe
20 25 30

Leu Phe

<210> 68
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 68

Ile Glu Val Asp Pro Gln Asn Tyr Gln Val Arg Ala Asp Gly Gln Leu
1 5 10 15

Leu Trp Phe Glu Pro Ser Lys Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 69
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 69

Val Glu Val Asn Pro Glu Thr Tyr Glu Val Arg Ala Asn Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Glu Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Tyr

<210> 70
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 70

Ile Glu Val Asp Pro Glu Thr Tyr Glu Val Arg Ala Asp Gly Glu Leu
1 5 10 15

Leu Thr Cys Glu Pro Ala Thr Val Leu Pro Met Ala Gln Arg Tyr Phe
20 25 30

Leu Phe

<210> 71
<211> 34
<212> PRT
<213> Helicobacter pylori

<400> 71

Val Glu Val Asp Pro Gln Thr Tyr Glu Val Phe Ala Asp Gly Asp Leu
1 5 10 15

Leu Thr Cys Asp Pro Ala Glu Glu Leu Pro Met Ala Gln Arg Tyr Leu
20 25 30

Leu Leu