

SEQUENCE LISTING

<110> MORPHOSYS AG

<120> ANTIBODIES FOR IL-17C

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<150> EP 16156651.8

<151> 2016-02-22

<160> 71

<170> PatentIn version 3.5

<210> 1

<211> 197

<212> PRT

<213> Homo sapiens

<400> 1

Met Thr Leu Leu Pro Gly Leu Leu Phe Leu Thr Trp Leu His Thr Cys
1 5 10 15

Leu Ala His His Asp Pro Ser Leu Arg Gly His Pro His Ser His Gly
20 25 30

Thr Pro His Cys Tyr Ser Ala Glu Glu Leu Pro Leu Gly Gln Ala Pro
35 40 45

Pro His Leu Leu Ala Arg Gly Ala Lys Trp Gly Gln Ala Leu Pro Val
50 55 60

Ala Leu Val Ser Ser Leu Glu Ala Ala Ser His Arg Gly Arg His Glu
65 70 75 80

Arg Pro Ser Ala Thr Thr Gln Cys Pro Val Leu Arg Pro Glu Glu Val
85 90 95

Leu Glu Ala Asp Thr His Gln Arg Ser Ile Ser Pro Trp Arg Tyr Arg
100 105 110

Val Asp Thr Asp Glu Asp Arg Tyr Pro Gln Lys Leu Ala Phe Ala Glu
115 120 125

Cys Leu Cys Arg Gly Cys Ile Asp Ala Arg Thr Gly Arg Glu Thr Ala
130 135 140

Ala Leu Asn Ser Val Arg Leu Leu Gln Ser Leu Leu Val Leu Arg Arg
145 150 155 160

Arg Pro Cys Ser Arg Asp Gly Ser Gly Leu Pro Thr Pro Gly Ala Phe
165 170 175

Ala Phe His Thr Glu Phe Ile His Val Pro Val Gly Cys Thr Cys Val
180 185 190

Leu Pro Arg Ser Val
195

<210> 2

<211> 194

<212> PRT

<213> Mus musculus

<400> 2

Met Ser Leu Leu Leu Leu Gly Trp Leu Pro Thr Gly Met Thr His Gln
1 5 10 15

Asp Pro Pro Ser Trp Gly Lys Pro Arg Ser His Arg Thr Leu Arg Cys
20 25 30

Tyr Ser Ala Glu Glu Leu Ser His Gly Gln Ala Pro Pro His Leu Leu
35 40 45

Thr Arg Ser Ala Arg Trp Glu Gln Ala Leu Pro Val Ala Leu Val Ala
50 55 60

Ser Leu Glu Ala Thr Gly His Arg Arg Gln His Glu Gly Pro Leu Ala
65 70 75 80

Gly Thr Gln Cys Pro Val Leu Arg Pro Glu Glu Val Leu Glu Ala Asp
85 90 95

Thr His Glu Arg Ser Ile Ser Pro Trp Arg Tyr Arg Ile Asp Thr Asp

100 105 110

Glu Asn Arg Tyr Pro Gln Lys Leu Ala Val Ala Glu Cys Leu Cys Arg
115 120 125

Gly Cys Ile Asn Ala Lys Thr Gly Arg Glu Thr Ala Ala Leu Asn Ser
130 135 140

Val Gln Leu Leu Gln Ser Leu Leu Val Leu Arg Arg Gln Pro Cys Ser
145 150 155 160

Arg Asp Gly Thr Ala Asp Pro Thr Pro Gly Ser Phe Ala Phe His Thr
165 170 175

Glu Phe Ile Arg Val Pro Val Gly Cys Thr Cys Val Leu Pro Arg Ser
180 185 190

Thr Gln

<210> 3

<211> 197

<212> PRT

<213> Macaca fascicularis

<400> 3

Met Thr Leu Leu Pro Gly Leu Leu Phe Leu Thr Trp Leu His Ala Cys
1 5 10 15

Leu Ala His Gln Asp Pro Phe Leu Arg Gly His Pro His Thr His Gly
20 25 30

Thr Pro Arg Cys Tyr Ser Ala Glu Glu Leu Pro Leu Gly Gln Ala Pro
35 40 45

Pro His Leu Leu Ala Arg Gly Ala Lys Trp Gly Gln Ala Leu Pro Val
50 55 60

Ala Leu Val Ser Ser Leu Glu Ala Ala Gly His Arg Arg Arg His Asp
65 70 75 80

Arg Pro Ser Ala Ala Thr Gln Cys Pro Val Leu Arg Pro Glu Glu Val
85 90 95

Leu Glu Ala Asp Thr His Gln Arg Ser Ile Ser Pro Trp Arg Tyr Arg
100 105 110

Val Asp Thr Asp Glu Asp Arg Tyr Pro Gln Lys Leu Ala Phe Ala Glu
115 120 125

Cys Leu Cys Arg Gly Cys Ile Asp Pro Arg Thr Gly Arg Glu Thr Ala
130 135 140

Ala Leu Asn Ser Val Arg Leu Leu Gln Ser Leu Leu Val Leu Arg Arg
145 150 155 160

Arg Pro Cys Ser Arg Asp Gly Ser Gly Leu Pro Thr Pro Gly Ala Phe
165 170 175

Ala Phe His Thr Glu Phe Ile Arg Val Pro Val Gly Cys Thr Cys Val
180 185 190

Leu Pro Arg Ser Val
195

<210> 4

<211> 866

<212> PRT

<213> Homo sapiens

<400> 4

Met Gly Ala Ala Arg Ser Pro Pro Ser Ala Val Pro Gly Pro Leu Leu
1 5 10 15

Gly Leu Leu Leu Leu Leu Gly Val Leu Ala Pro Gly Gly Ala Ser
20 25 30

Leu Arg Leu Leu Asp His Arg Ala Leu Val Cys Ser Gln Pro Gly Leu
35 40 45

Asn Cys Thr Val Lys Asn Ser Thr Cys Leu Asp Asp Ser Trp Ile His
50 55 60

Pro Arg Asn Leu Thr Pro Ser Ser Pro Lys Asp Leu Gln Ile Gln Leu
65 70 75 80

His Phe Ala His Thr Gln Gln Gly Asp Leu Phe Pro Val Ala His Ile
85 90 95

Glu Trp Thr Leu Gln Thr Asp Ala Ser Ile Leu Tyr Leu Glu Gly Ala
100 105 110

Glu Leu Ser Val Leu Gln Leu Asn Thr Asn Glu Arg Leu Cys Val Arg
115 120 125

Phe Glu Phe Leu Ser Lys Leu Arg His His His Arg Arg Trp Arg Phe
130 135 140

Thr Phe Ser His Phe Val Val Asp Pro Asp Gln Glu Tyr Glu Val Thr
145 150 155 160

Val His His Leu Pro Lys Pro Ile Pro Asp Gly Asp Pro Asn His Gln
165 170 175

Ser Lys Asn Phe Leu Val Pro Asp Cys Glu His Ala Arg Met Lys Val
180 185 190

Thr Thr Pro Cys Met Ser Ser Gly Ser Leu Trp Asp Pro Asn Ile Thr
195 200 205

Val Glu Thr Leu Glu Ala His Gln Leu Arg Val Ser Phe Thr Leu Trp
210 215 220

Asn Glu Ser Thr His Tyr Gln Ile Leu Leu Thr Ser Phe Pro His Met
225 230 235 240

Glu Asn His Ser Cys Phe Glu His Met His His Ile Pro Ala Pro Arg
245 250 255

Pro Glu Glu Phe His Gln Arg Ser Asn Val Thr Leu Thr Leu Arg Asn
260 265 270

Leu Lys Gly Cys Cys Arg His Gln Val Gln Ile Gln Pro Phe Phe Ser
275 280 285

Ser Cys Leu Asn Asp Cys Leu Arg His Ser Ala Thr Val Ser Cys Pro
290 295 300

Glu Met Pro Asp Thr Pro Glu Pro Ile Pro Asp Tyr Met Pro Leu Trp
305 310 315 320

Val Tyr Trp Phe Ile Thr Gly Ile Ser Ile Leu Leu Val Gly Ser Val
 325 330 335

Ile Leu Leu Ile Val Cys Met Thr Trp Arg Leu Ala Gly Pro Gly Ser
 340 345 350

Glu Lys Tyr Ser Asp Asp Thr Lys Tyr Thr Asp Gly Leu Pro Ala Ala
 355 360 365

Asp Leu Ile Pro Pro Pro Leu Lys Pro Arg Lys Val Trp Ile Ile Tyr
 370 375 380

Ser Ala Asp His Pro Leu Tyr Val Asp Val Val Leu Lys Phe Ala Gln
385 390 395 400

Phe Leu Leu Thr Ala Cys Gly Thr Glu Val Ala Leu Asp Leu Leu Glu
 405 410 415

Glu Gln Ala Ile Ser Glu Ala Gly Val Met Thr Trp Val Gly Arg Gln
 420 425 430

Lys Gln Glu Met Val Glu Ser Asn Ser Lys Ile Ile Val Leu Cys Ser
 435 440 445

Arg Gly Thr Arg Ala Lys Trp Gln Ala Leu Leu Gly Arg Gly Ala Pro
 450 455 460

Val Arg Leu Arg Cys Asp His Gly Lys Pro Val Gly Asp Leu Phe Thr
465 470 475 480

Ala Ala Met Asn Met Ile Leu Pro Asp Phe Lys Arg Pro Ala Cys Phe
 485 490 495

Gly Thr Tyr Val Val Cys Tyr Phe Ser Glu Val Ser Cys Asp Gly Asp
 500 505 510

Val Pro Asp Leu Phe Gly Ala Ala Pro Arg Tyr Pro Leu Met Asp Arg

515 520 525

Phe Glu Glu Val Tyr Phe Arg Ile Gln Asp Leu Glu Met Phe Gln Pro
530 535 540

Gly Arg Met His Arg Val Gly Glu Leu Ser Gly Asp Asn Tyr Leu Arg
545 550 555 560

Ser Pro Gly Gly Arg Gln Leu Arg Ala Ala Leu Asp Arg Phe Arg Asp
565 570 575

Trp Gln Val Arg Cys Pro Asp Trp Phe Glu Cys Glu Asn Leu Tyr Ser
580 585 590

Ala Asp Asp Gln Asp Ala Pro Ser Leu Asp Glu Glu Val Phe Glu Glu
595 600 605

Pro Leu Leu Pro Pro Gly Thr Gly Ile Val Lys Arg Ala Pro Leu Val
610 615 620

Arg Glu Pro Gly Ser Gln Ala Cys Leu Ala Ile Asp Pro Leu Val Gly
625 630 635 640

Glu Glu Gly Gly Ala Ala Val Ala Lys Leu Glu Pro His Leu Gln Pro
645 650 655

Arg Gly Gln Pro Ala Pro Gln Pro Leu His Thr Leu Val Leu Ala Ala
660 665 670

Glu Glu Gly Ala Leu Val Ala Ala Val Glu Pro Gly Pro Leu Ala Asp
675 680 685

Gly Ala Ala Val Arg Leu Ala Leu Ala Gly Glu Gly Glu Ala Cys Pro
690 695 700

Leu Leu Gly Ser Pro Gly Ala Gly Arg Asn Ser Val Leu Phe Leu Pro
705 710 715 720

Val Asp Pro Glu Asp Ser Pro Leu Gly Ser Ser Thr Pro Met Ala Ser
725 730 735

Pro Asp Leu Leu Pro Glu Asp Val Arg Glu His Leu Glu Gly Leu Met
740 745 750

Leu Ser Leu Phe Glu Gln Ser Leu Ser Cys Gln Ala Gln Gly Gly Cys
755 760 765

Ser Arg Pro Ala Met Val Leu Thr Asp Pro His Thr Pro Tyr Glu Glu
770 775 780

Glu Gln Arg Gln Ser Val Gln Ser Asp Gln Gly Tyr Ile Ser Arg Ser
785 790 795 800

Ser Pro Gln Pro Pro Glu Gly Leu Thr Glu Met Glu Glu Glu Glu
805 810 815

Glu Glu Gln Asp Pro Gly Lys Pro Ala Leu Pro Leu Ser Pro Glu Asp
820 825 830

Leu Glu Ser Leu Arg Ser Leu Gln Arg Gln Leu Leu Phe Arg Gln Leu
835 840 845

Gln Lys Asn Ser Gly Trp Asp Thr Met Gly Ser Glu Ser Glu Gly Pro
850 855 860

Ser Ala
865

<210> 5

<211> 667

<212> PRT

<213> Homo sapiens

<400> 5

Met Gly Ser Ser Arg Leu Ala Ala Leu Leu Leu Pro Leu Leu Leu Ile
1 5 10 15

Val Ile Asp Leu Ser Asp Ser Ala Gly Ile Gly Phe Arg His Leu Pro
20 25 30

His Trp Asn Thr Arg Cys Pro Leu Ala Ser His Thr Asp Asp Ser Phe
35 40 45

Thr Gly Ser Ser Ala Tyr Ile Pro Cys Arg Thr Trp Trp Ala Leu Phe

50 55 60

Ser Thr Lys Pro Trp Cys Val Arg Val Trp His Cys Ser Arg Cys Leu
65 70 75 80

Cys Gln His Leu Leu Ser Gly Gly Ser Gly Leu Gln Arg Gly Leu Phe
85 90 95

His Leu Leu Val Gln Lys Ser Lys Lys Ser Ser Thr Phe Lys Phe Tyr
100 105 110

Arg Arg His Lys Met Pro Ala Pro Ala Gln Arg Lys Leu Leu Pro Arg
115 120 125

Arg His Leu Ser Glu Lys Ser His His Ile Ser Ile Pro Ser Pro Asp
130 135 140

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

Glu Thr Trp Glu Ser Leu Pro Arg Leu Asp Ser Gln Arg His Gly Gly
165 170 175

Pro Glu Phe Ser Phe Asp Leu Leu Pro Glu Ala Arg Ala Ile Arg Val
180 185 190

Thr Ile Ser Ser Gly Pro Glu Val Ser Val Arg Leu Cys His Gln Trp
195 200 205

Ala Leu Glu Cys Glu Glu Leu Ser Ser Pro Tyr Asp Val Gln Lys Ile
210 215 220

Val Ser Gly Gly His Thr Val Glu Leu Pro Tyr Glu Phe Leu Leu Pro
225 230 235 240

Cys Leu Cys Ile Glu Ala Ser Tyr Leu Gln Glu Asp Thr Val Arg Arg
245 250 255

Lys Lys Cys Pro Phe Gln Ser Trp Pro Glu Ala Tyr Gly Ser Asp Phe
260 265 270

Trp Lys Ser Val His Phe Thr Asp Tyr Ser Gln His Thr Gln Met Val
275 280 285

Met Ala Leu Thr Leu Arg Cys Pro Leu Lys Leu Glu Ala Ala Leu Cys
290 295 300

Gln Arg His Asp Trp His Thr Leu Cys Lys Asp Leu Pro Asn Ala Thr
305 310 315 320

Ala Arg Glu Ser Asp Gly Trp Tyr Val Leu Glu Lys Val Asp Leu His
325 330 335

Pro Gln Leu Cys Phe Lys Phe Ser Phe Gly Asn Ser Ser His Val Glu
340 345 350

Cys Pro His Gln Thr Gly Ser Leu Thr Ser Trp Asn Val Ser Met Asp
355 360 365

Thr Gln Ala Gln Gln Leu Ile Leu His Phe Ser Ser Arg Met His Ala
370 375 380

Thr Phe Ser Ala Ala Trp Ser Leu Pro Gly Leu Gly Gln Asp Thr Leu
385 390 395 400

Val Pro Pro Val Tyr Thr Val Ser Gln Ala Arg Gly Ser Ser Pro Val
405 410 415

Ser Leu Asp Leu Ile Ile Pro Phe Leu Arg Pro Gly Cys Cys Val Leu
420 425 430

Val Trp Arg Ser Asp Val Gln Phe Ala Trp Lys His Leu Leu Cys Pro
435 440 445

Asp Val Ser Tyr Arg His Leu Gly Leu Leu Ile Leu Ala Leu Leu Ala
450 455 460

Leu Leu Thr Leu Leu Gly Val Val Leu Ala Leu Thr Cys Arg Arg Pro
465 470 475 480

Gln Ser Gly Pro Gly Pro Ala Arg Pro Val Leu Leu Leu His Ala Ala
485 490 495

Asp Ser Glu Ala Gln Arg Arg Leu Val Gly Ala Leu Ala Glu Leu Leu
500 505 510

Arg Ala Ala Leu Gly Gly Gly Arg Asp Val Ile Val Asp Leu Trp Glu
515 520 525

Gly Arg His Val Ala Arg Val Gly Pro Leu Pro Trp Leu Trp Ala Ala
530 535 540

Arg Thr Arg Val Ala Arg Glu Gln Gly Thr Val Leu Leu Leu Trp Ser
545 550 555 560

Gly Ala Asp Leu Arg Pro Val Ser Gly Pro Asp Pro Arg Ala Ala Pro
565 570 575

Leu Leu Ala Leu Leu His Ala Ala Pro Arg Pro Leu Leu Leu Leu Ala
580 585 590

Tyr Phe Ser Arg Leu Cys Ala Lys Gly Asp Ile Pro Pro Pro Leu Arg
595 600 605

Ala Leu Pro Arg Tyr Arg Leu Leu Arg Asp Leu Pro Arg Leu Leu Arg
610 615 620

Ala Leu Asp Ala Arg Pro Phe Ala Glu Ala Thr Ser Trp Gly Arg Leu
625 630 635 640

Gly Ala Arg Gln Arg Arg Gln Ser Arg Leu Glu Leu Cys Ser Arg Leu
645 650 655

Glu Arg Glu Ala Ala Arg Leu Ala Asp Leu Gly
660 665

<210> 6

<211> 637

<212> PRT

<213> Mus musculus

<400> 6

Met Gly Ser Pro Arg Leu Ala Ala Leu Leu Leu Ser Leu Pro Leu Leu
1 5 10 15

Leu Ile Gly Leu Ala Val Ser Ala Arg Val Ala Cys Pro Cys Leu Arg
20 25 30

Ser Trp Thr Ser His Cys Leu Leu Ala Tyr Arg Val Asp Lys Arg Phe
35 40 45

Ala Gly Leu Gln Trp Gly Trp Phe Pro Leu Leu Val Arg Lys Ser Lys
50 55 60

Ser Pro Pro Lys Phe Glu Asp Tyr Trp Arg His Arg Thr Pro Ala Ser
65 70 75 80

Phe Gln Arg Lys Leu Leu Gly Ser Pro Ser Leu Ser Glu Glu Ser His
85 90 95

Arg Ile Ser Ile Pro Ser Ser Ala Ile Ser His Arg Gly Gln Arg Thr
100 105 110

Lys Arg Ala Gln Pro Ser Ala Ala Glu Gly Arg Glu His Leu Pro Glu
115 120 125

Ala Gly Ser Gln Lys Cys Gly Gly Pro Glu Phe Ser Phe Asp Leu Leu
130 135 140

Pro Glu Val Gln Ala Val Arg Val Thr Ile Pro Ala Gly Pro Lys Ala
145 150 155 160

Ser Val Arg Leu Cys Tyr Gln Trp Ala Leu Glu Cys Glu Asp Leu Ser
165 170 175

Ser Pro Phe Asp Thr Gln Lys Ile Val Ser Gly Gly His Thr Val Asp
180 185 190

Leu Pro Tyr Glu Phe Leu Leu Pro Cys Met Cys Ile Glu Ala Ser Tyr
195 200 205

Leu Gln Glu Asp Thr Val Arg Arg Lys Lys Cys Pro Phe Gln Ser Trp
210 215 220

Pro Glu Ala Tyr Gly Ser Asp Phe Trp Gln Ser Ile Arg Phe Thr Asp
225 230 235 240

Tyr Ser Gln His Asn Gln Met Val Met Ala Leu Thr Leu Arg Cys Pro
245 250 255

Leu Lys Leu Glu Ala Ser Leu Cys Trp Arg Gln Asp Pro Leu Thr Pro
260 265 270

Cys Glu Thr Leu Pro Asn Ala Thr Ala Gln Glu Ser Glu Gly Trp Tyr
275 280 285

Ile Leu Glu Asn Val Asp Leu His Pro Gln Leu Cys Phe Lys Phe Ser
290 295 300

Phe Glu Asn Ser Ser His Val Glu Cys Pro His Gln Ser Gly Ser Leu
305 310 315 320

Pro Ser Trp Thr Val Ser Met Asp Thr Gln Ala Gln Gln Leu Thr Leu
325 330 335

His Phe Ser Ser Arg Thr Tyr Ala Thr Phe Ser Ala Ala Trp Ser Asp
340 345 350

Pro Gly Leu Gly Pro Asp Thr Pro Met Pro Pro Val Tyr Ser Ile Ser
355 360 365

Gln Thr Gln Gly Ser Val Pro Val Thr Leu Asp Leu Ile Ile Pro Phe
370 375 380

Leu Arg Gln Glu Asn Cys Ile Leu Val Trp Arg Ser Asp Val His Phe
385 390 395 400

Ala Trp Lys His Val Leu Cys Pro Asp Val Ser His Arg His Leu Gly
405 410 415

Leu Leu Ile Leu Ala Leu Leu Ala Leu Thr Ala Leu Val Gly Val Val
420 425 430

Leu Val Leu Leu Gly Arg Arg Leu Leu Pro Gly Ser Gly Arg Thr Arg
435 440 445

Pro Val Leu Leu Leu His Ala Ala Asp Ser Glu Ala Gln Arg Arg Leu
450 455 460

Val Gly Ala Leu Ala Glu Leu Leu Arg Thr Ala Leu Gly Gly Gly Arg
465 470 475 480

Asp Val Ile Val Asp Leu Trp Glu Gly Thr His Val Ala Arg Ile Gly
485 490 495

Pro Leu Pro Trp Leu Trp Ala Ala Arg Glu Arg Val Ala Arg Glu Gln
500 505 510

Gly Thr Val Leu Leu Leu Trp Asn Cys Ala Gly Pro Ser Thr Ala Cys
515 520 525

Ser Gly Asp Pro Gln Ala Ala Ser Leu Arg Thr Leu Leu Cys Ala Ala
530 535 540

Pro Arg Pro Leu Leu Leu Ala Tyr Phe Ser Arg Leu Cys Ala Lys Gly
545 550 555 560

Asp Ile Pro Arg Pro Leu Arg Ala Leu Pro Arg Tyr Arg Leu Leu Arg
565 570 575

Asp Leu Pro Arg Leu Leu Arg Ala Leu Asp Ala Gln Pro Ala Thr Leu
580 585 590

Ala Ser Ser Trp Ser His Leu Gly Ala Lys Arg Cys Leu Lys Asn Arg
595 600 605

Leu Glu Gln Cys His Leu Leu Glu Leu Glu Ala Ala Lys Asp Asp Tyr
610 615 620

Gln Gly Ser Thr Asn Ser Pro Cys Gly Phe Ser Cys Leu
625 630 635

<210> 7

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 7
Asp Tyr Ala Met His
1 5

<210> 8
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 8
Tyr Ile Gly Gly Val Gly Glu Gly Thr Gln Tyr Ala Glu Ser Val Lys
1 5 10 15

Gly

<210> 9
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 9
Gly Phe Ala Ile Arg Tyr Tyr Gly Phe Asp Tyr
1 5 10

<210> 10
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 10
Gly Phe Thr Val Ser Asp Tyr
1 5

<210> 11
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 11
Gly Gly Val Gly Glu Gly
1 5

<210> 12
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 12
Gly Phe Ala Ile Arg Tyr Tyr Gly Phe Asp Tyr
1 5 10

<210> 13
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 13
Ser Gly Asp Lys Leu Gly Asp Lys Tyr Ala Tyr
1 5 10

<210> 14
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 14

Gln Asp Ser Lys Arg Pro Ser

1 5

<210> 15

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 15

Gln Val Phe Thr Phe Pro Leu Val Thr Thr

1 5 10

<210> 16

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 16

Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln

1 5 10 15

Thr Ala Ser Ile Thr Cys Ser Gly Asp Lys Leu Gly Asp Lys Tyr Ala

20 25 30

Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr

35 40 45

Gln Asp Ser Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser

50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Glu

65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Phe Thr Phe Pro Leu Val Thr

85 90 95

Thr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
100 105 110

<210> 17

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 17

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser Asp Tyr
20 25 30

Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Tyr Ile Gly Gly Val Gly Glu Gly Thr Gln Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Phe Ala Ile Arg Tyr Tyr Gly Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 18

<211> 330

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic

polynucleotide"

<400> 18

agctatgaac tgaccagacc gccgagcgtt agcgtagcc caggccagac cgccagcatt 60
acctgtagcg gcgacaaact gggcgacaaa tacgcctact ggtatcagca gaaaccgggc 120
cagagcccgg tgctggttat ctatcaggat agcaaagcc cgagcggcat tccagaacgc 180
tttagcggca gcaacagcgg caacaccgcc accctgacca ttagcggcac ccaggccgaa 240
gacgaagccg attattactg ccaggtttct actttccgc tggttactac tgtgtttggc 300
ggcggtagca agctgaccgt gctgggccag 330

<210> 19

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
polynucleotide"

<400> 19

gaagtgcagc tgctggaaag cggtagcggt ctggtgcagc caggtagtag cctgcgcctg 60
agctgtgccg caagcggctt cacagtgtcc gactacgcaa tgcatgggt gcgccaagca 120
ccaggcaaag gcctggaatg ggtgagttac ataggtggcg tgggtgaggg gacacaatat 180
gcagagagcg tgaaaggtcg ctttaccatt agtcgcgata acagcaaaaa caccctgtat 240
ctgcaaatga acagcctgcg ggcagaagat accgcagttt attattgcgc gcgtggtttc 300
gcaatccgtt attatggatt tgattattgg ggccagggca ccctggttac tgtctcgagc 360

<210> 20

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 20

Ser Asp His Tyr Ile Ser

1 5

<210> 21
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 21
Tyr Ile Ser Ser Gly Ser Thr Thr Tyr Tyr Ala Glu Ser Val Lys
1 5 10 15

Gly

<210> 22
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 22
Gln Ser Tyr Tyr Phe Leu Pro Tyr Phe Asp Val
1 5 10

<210> 23
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 23
Gly Phe Thr Phe Ser Asp His
1 5

<210> 24
<211> 6
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 24
Ser Ser Ser Gly Ser Thr
1 5

<210> 25
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 25
Gln Ser Tyr Tyr Phe Leu Pro Tyr Phe Asp Val
1 5 10

<210> 26
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 26
Thr Gly Thr Ser Ser Asp Val Gly Ser Tyr Asn Leu Val Ser
1 5 10

<210> 27
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 27
Glu Gly Ser Lys Arg Pro Ser
1 5

<210> 28

<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 28
Ala Ser Arg Gly Ser Arg Arg Val Leu Tyr Val
1 5 10

<210> 29
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 29
Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Ser Tyr
20 25 30

Asn Leu Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Glu Gly Ser Lys Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Arg Gly Ser Arg
85 90 95

Arg Val Leu Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln

<210> 30
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 30
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp His
20 25 30

Tyr Ile Ser Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Tyr Ile Ser Ser Ser Gly Ser Thr Thr Tyr Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gln Ser Tyr Tyr Phe Leu Pro Tyr Phe Asp Val Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 31
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polynucleotide"

<400> 31
cagagcgcgc tgaccagcc agccagcgtt agcggtagcc caggccagag cattaccatt 60
agctgcaccg gcaccagcag cgacgtgggc agctataacc tggtagctg gtatcagcag 120
catccgggca aagccccgaa actgatgac tatgaaggca gcaaacgccc gagcggcgtt 180
agcaaccgct ttagtggcag caaaagcggc aacaccgcca gcctgacat tagcggcctg 240
caagccgaag acgaagccga ttattactgc gcaagtcggg gaagccgtcg tgtgctgtat 300
gttttggcg gcggtaccaa gctgaccgtg ctgggccag 339

<210> 32
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polynucleotide"

<400> 32
caggtgcagc tggtgaaag cggcgggtgc ctggtgaaac caggcggtag cctgcgcctg 60
agctgcgccg ccagcggcct taccttagc gatcattaca ttagctggat tcgccaggcc 120
ccaggcaaag gcctggaatg ggtagctat attagcagca gtggcagcac cacctattac 180
gccgagagcg tgaaaggccg ctttaccatt agccgcgata acgcaaaaa cagcctgtat 240
ctgcaaatga acagcctgcg ggccgaagat accgccgtgt attattgcgc gcgacaatcc 300
tactatttcc tgccttattt cgacgttgg ggccagggca ccttggttac tgtctcgagc 360

<210> 33
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 33
gactacgcaa tgcac 15

<210> 34
<211> 51
<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 34

tacataggtg gcgtgggtga ggggacacaa tatgcagaga gcgtgaaagg t

51

<210> 35

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 35

ggtttcgcaa tccgttatta tggatttgat tat

33

<210> 36

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 36

ggcttcacag tgtccgacta c

21

<210> 37

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 37

ggtggcgtgg gtgagggg

18

<210> 38

<211> 33

<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 38
ggtttcgcaa tccgttatta tggatttgat tat 33

<210> 39
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 39
agcggcgaca aactgggcga caaatagcc tac 33

<210> 40
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 40
caggatagca aacgcccag c 21

<210> 41
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 41
caggttttca ctttcccgct ggttactact 30

<210> 42

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 42

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

Thr Ala Ser Ile Thr Cys Ser Gly Asp Lys Leu Gly Asp Lys Tyr Ala
20 25 30

Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
35 40 45

Gln Asp Ser Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Phe Thr Phe Pro Leu Val Thr
85 90 95

Thr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln Pro Lys
100 105 110

Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu Leu Gln
115 120 125

Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr Pro Gly
130 135 140

Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys Ala Gly
145 150 155 160

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

Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His Arg Ser

180 185 190

Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys Thr Val
195 200 205

Ala Pro Thr Glu Cys Ser
210

<210> 43

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 43

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser Asp Tyr
20 25 30

Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Tyr Ile Gly Gly Val Gly Glu Gly Thr Gln Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Phe Ala Ile Arg Tyr Tyr Gly Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala

130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
435 440 445

Gly Lys
450

<210> 44

<211> 642

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
polynucleotide"

<400> 44

agctatgaac tgaccagcc gccgagcgtt agcgtagcc caggccagac cgccagcatt 60

acctgtagcg gcgacaaact gggcgacaaa tacgcctact ggtatcagca gaaaccgggc 120

cagagcccgg tgctggttat ctatcaggat agcaaagcc cgagcggcat tccagaacgc 180

tttagcggca gcaacagcgg caacaccgcc accctgacca ttagcggcac ccaggccgaa 240

gacgaagccg attattactg ccaggtttc actttccgc tggttactac tgtgttggc 300

ggcggtagca agctgaccgt gctgggccag cccaaagccg ccctagcgt gaccctgttc 360

cccccaagca gcgaggaact ccaggccaac aaggccacc tcgtgtgcct gatcagcgac 420

ttctaccctg gcgccgtgac cgtggcctgg aaggccgata gcagccctgt gaaggccggc 480

gtggaaacca ccacccccag caagcagagc aacaacaaat acgccgccag cagctacctg 540
 agcctgaccc ccgagcagtg gaagtcacac agatcctaca gctgccaggt cacacacgag 600
 ggcagcaccg tggaaaagac cgtggccccc accgagtgca gc 642

<210> 45
 <211> 1350
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> source
 <223> /note="Description of Artificial Sequence: Synthetic
 polynucleotide"

<400> 45
 gaagtgcagc tgctggaaag cggcggcggt ctggtgcagc caggtggtag cctgcgcctg 60
 agctgtgccg caagcggctt cacagtgtcc gactacgcaa tgcattgggt gcgccaagca 120
 ccaggcaaag gcctggaatg ggtgagttac ataggtggcg tgggtgaggg gacacaatat 180
 gcagagagcg tgaaaggctg ctttaccatt agtcgcgata acagcaaaaa caccctgtat 240
 ctgcaaatga acagcctgcg ggcagaagat accgcagttt attattgcgc gctgggtttc 300
 gcaatccgtt attatggatt tgattattgg ggccagggca ccctgggttac tgtctcgagc 360
 gcgtcgacca aaggccccag cgtgttcctt ctggccccca gcagcaagag cacctctggc 420
 ggaacagccg ccctgggctg cctggtcaag gactacttcc ccgagcccg gaccgtgtcc 480
 tggaactctg gcgccctgac cagcggcgtg cacaccttcc cagccgtgct ccagagcagc 540
 ggctgtaca gcctgagcag cgtcgtgacc gtgccagca gcagcctggg caccagagacc 600
 tacatctgca acgtgaacca caagcccagc aacacaaagg tggacaagcg ggtggaaccc 660
 aagagctgcg acaagacca cacctgtccc ccctgccctg cccctgaact gctgggaggc 720
 cctccgtgt tctgttccc cccaaagcct aaggacccc tgatgatcag ccggaccccc 780
 gaagtacct gcgtgggtgt ggacgtgtcc cagaggacc ctgaagtga gtttaattgg 840
 tacgtggacg gcgtggaagt gcacaacgcc aagaccaagc ccagagagga acagtacaac 900
 agcacctacc gggcgggtgc cgtgctgacc gtgctgcacc aggactggct gaacggcaaa 960
 gagtacaagt gcaaggtgtc caacaaggcc ctgcctgccc ccatcgagaa aaccatcagc 1020
 aaggccaaag gccagccccg cgagccccag gtgtacacac tgcccctag ccgggaagag 1080
 atgaccaaga accaggtgtc cctgacctgc ctcgtgaagg gcttctaccc cagcgacatt 1140

gccgtggaat gggagagcaa cggccagccc gagaacaact acaagaccac cccccctgtg 1200

ctggacagcg acggctcatt cttcctgtac agcaagctga ccgtggacaa gagccggtgg 1260

cagcagggca acgtgttcag ctgctccgtg atgcacgagg ccctgcacaa ccactacacc 1320

cagaagtcctc tgagcctgag ccccggaag 1350

<210> 46

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 46

agcgatcatt acattagc 18

<210> 47

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 47

tatattagca gcagtggcag caccacctat tacgccgaga gcgtgaaagg c 51

<210> 48

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 48

caatcctact atttctgcc ttatttcgac gtt 33

<210> 49

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 49

ggctttacct ttagcgatca t

21

<210> 50

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 50

agcagcagtg gcagcacc

18

<210> 51

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 51

caatcctact atttctgcc ttatttcgac gtt

33

<210> 52

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 52

accggcacca gcagcgacgt gggcagctat aacctggta gc

42

<210> 53

<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 53
gaaggcagca aacgcccgag c 21

<210> 54
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 54
gcaagtcggg gaagccgtcg tgtgctgtat gtt 33

<210> 55
<211> 217
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 55
Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Ser Tyr
20 25 30

Asn Leu Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Glu Gly Ser Lys Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Arg Gly Ser Arg
85 90 95

Arg Val Leu Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
115 120 125

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
130 135 140

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
145 150 155 160

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

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
180 185 190

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
195 200 205

Lys Thr Val Ala Pro Thr Glu Cys Ser
210 215

<210> 56

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 56

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp His
20 25 30

Tyr Ile Ser Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Tyr Ile Ser Ser Ser Gly Ser Thr Thr Tyr Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gln Ser Tyr Tyr Phe Leu Pro Tyr Phe Asp Val Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile

245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
435 440 445

Gly Lys
450

<210> 57
<211> 651
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polynucleotide"

<400> 57
cagagcgcgc tgaccagcc agccagcgtt agcggtagcc caggccagag cattaccatt 60
agctgcaccg gcaccagcag cgacgtgggc agctataacc tggtagctg gtatcagcag 120
catccgggca aagccccgaa actgatgatc tatgaaggca gcaaacgccc gagcggcgtt 180
agcaaccgct ttagtggcag caaaagcggc aacaccgcca gcctgacat tagcggcctg 240
caagccgaag acgaagccga ttattactgc gcaagtcggg gaagccgtcg tgtgctgtat 300
gtttttggcg gcggtaccaa gctgaccgtg ctgggccagc ccaaagccgc ccctagcgtg 360
accctgttcc cccaagcag cgaggaactc caggccaaca aggccaccct cgtgtgcctg 420
atcagcgact tctaccctgg cgccgtgacc gtggcctgga aggccgatag cagccctgtg 480
aaggccggcg tggaaaccac cccccccagc aagcagagca acaacaaata cgccgccagc 540
agctacctga gcctgacccc cgagcagtgg aagtcccaca gacacctag ctgccaggtc 600
acacacgagg gcagcaccgt ggaaaagacc gtggcccca cagagtgcag c 651

<210> 58
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 58
gactacgcta tgcac 15

<210> 59
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 59

tatatcggcg gcgtgggcga gggcacccag tacgctgagt ctgtgaaggg c

51

<210> 60

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 60

ggcttcgcca tccgttacta cggcttcgac tac

33

<210> 61

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 61

ggcttcaccg tgtccgacta c

21

<210> 62

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 62

ggcggcgtgg gcgagggc

18

<210> 63

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 63
ggcttcgcca tccgttacta cggcttcgac tac 33

<210> 64
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 64
tccggcgaca agctgggcga taagtacgcc tac 33

<210> 65
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 65
caggactcca agcggccctc c 21

<210> 66
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 66
caggtgttca cttccccct ggtcaccacc 30

<210> 67
<211> 330
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 67
tcctacgagc tgaccagcc cccctccgtg tccgtgtctc ctggccagac cgctccatc 60
acctgttccg gcgacaagct gggcgataag tacgcctact ggtatcagca gaagcccggc 120
cagtcccccg tgctggatcat ctaccaggac tccaagcggc cctccggcat ccctgagcgg 180
ttctccggct ccaactccgg caacaccgcc accctgacca tctccggcac ccaggccgag 240
gacgaggccg actactactg ccaggtgttc accttcccc tggtcaccac cgtgttcggc 300
ggaggcacca agctgaccgt gctgggccag 330

<210> 68
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 68
gaggtgcagc tgctggaatc cggcggagga ctggtgcagc ctggcggctc cctgagactg 60
tcttgcgccg cctccggctt caccgtgtcc gactacgcta tgcactgggt ccgacaggcc 120
cctggcaagg gcctggaatg ggtgtcctat atcggcggcg tgggcgaggg caccagtag 180
gctgagtctg tgaagggccg gttcaccatc tcccgggaca actccaagaa caccctgtac 240
ctgcagatga actccctcgc ggccgaggac accgccgtgt actactgtgc cagaggcttc 300
gccatccggt actacggctt cgactactgg ggccagggca ccctggtcac cgtgtctagc 360

<210> 69
<211> 642
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 69
tcctacgagc tgaccagcc cccctccgtg tccgtgtctc ctggccagac cgctccatc 60

acctgttccg gcgacaagct gggcgataag tacgcctact ggtatcagca gaagcccggc 120
 cagtcccccg tgctgggtcat ctaccaggac tccaagcggc cctccggcat ccctgagcgg 180
 ttctccggct ccaactccgg caacaccgcc accctgacca tctccggcac ccaggccgag 240
 gacgaggccg actactactg ccagggtgtc accttcccc tggtcaccac cgtgttcggc 300
 ggaggcacca agctgaccgt gctgggccag cctaaggccg ctccctccgt gaccctgttc 360
 ccccatcct ccgaggaact gcaggccaac aaggccacc tggctgcct gatctccgac 420
 ttctaccctg gcgccgtgac cgtggcctgg aaggccgaca gctctcctgt gaaggccggc 480
 gtggaaacca ccaccccctc caagcagtc aacaacaaat acgccgcctc ctctacctg 540
 tccctgacc ccgagcagtg gaagtccac cggctctaca gctgccaggt cacacacgag 600
 ggctccaccg tggaagagac cgtggcccct accgagtgtc cc 642

<210> 70

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 70

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<210> 71

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 71

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