

eolf-seql
SEQUENCE LISTING

<110> NOVARTIS AG
OSPEDALE SAN RAFFAELE SRL

<120> PSEUDOMONAS ANTIGENS AND ANTIGEN COMBINATIONS

<130> PAT055128-WO-PCT

<140>

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<150> GB 1221638.8

<151> 2012-11-30

<160> 73

<170> PatentIn version 3.5

<210> 1

<211> 647

<212> PRT

<213> Pseudomonas aeruginosa

<400> 1

Met Phe Lys Pro Leu Ala Val Ala Val Gly Leu Gly Cys Ala Ala Leu
1 5 10 15

Ser Leu Gly Ala Asn Ala Tyr Gln Tyr Gly Glu Tyr Ala Gly Glu Thr
20 25 30

Leu Glu Arg Leu Ile Thr Asp Tyr Pro Gly Arg Tyr Arg Gly Thr Ala
35 40 45

Ser Phe Ala Gly Ala Ser Lys Leu Met Gln Ser Arg Leu Gly Phe Gly
50 55 60

Tyr Gln Thr Ser Arg Gln Asp Phe Thr Trp Ala Gly Asn Arg Ser Ser
65 70 75 80

Gln Asn Val Ile Ala Ser Ala Pro Gly Ser Ser Gly Lys Phe Leu Val
85 90 95

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Leu Gly Ala His Tyr Asp Thr Tyr Tyr Gly Arg Pro Thr Leu Gln Gly
100 105 110

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

Asn Leu Gly Gly Ile Ala Leu Glu Asn Gly Leu Glu Val Val Gly Phe
130 135 140

Gly Ala Glu Glu Glu Gly Leu Arg Gly Ser Arg Ala Tyr Val Glu Ser
145 150 155 160

Leu Asp Ala Ser Gln Arg Ala Asn Leu Leu Gly Met Ile Asn Leu Asp
165 170 175

Ser Leu Val Thr Gly Asp Lys Met Tyr Ala His Ala Gly Ser Asn Ser
180 185 190

Val Ser Asn Pro Ala Leu Gly Ala Tyr Arg Glu Gln Ile Leu Arg Ile
195 200 205

Ala Arg Glu Leu Asp Ile Pro Leu Phe Thr Asn Pro Gly Leu Asn Ala
210 215 220

Glu Tyr Pro Ala Gly Thr Gly Cys Cys Ser Asp Gly Glu Ser Phe Asn
225 230 235 240

Gly Met Asp Ile Pro Val Leu Phe Ile Glu Ala Thr Asn Trp Glu Leu
245 250 255

Gly Asp Leu Asp Gly Tyr Glu Gln Thr Asp Asn Pro Ala Ile Pro Gly
260 265 270

Gly Ser Thr Trp His Asp Pro Ala Glu Asp Asn Lys Glu Val Leu Thr
275 280 285

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Asn Ala Leu Gly Gln Glu Arg Ile Glu Gln Arg Met Arg Asp Phe Ser
290 295 300

Arg Leu Leu Thr Arg Leu Val Leu Glu Gln Thr Asn Ala Asp Leu Leu
305 310 315 320

Ala Ser Thr Ala Ser Gly Gly Ala Leu Ala Arg Gln Met Glu Asp Gln
325 330 335

Leu Gln Arg Gln His Gln Ala Leu Thr Arg Leu His Asp Arg Arg Trp
340 345 350

Leu Thr Leu Leu Gly Ser Asn Arg Pro Val Gly Ser Phe Asp Gly Glu
355 360 365

Val Gly Ala Glu Gly Glu Val Ser Pro Asp Ser Gly Phe Asp Met Pro
370 375 380

Gly Asn Pro Glu Ser Arg Arg Ala Gly Val His Leu Leu Gly Asp Tyr
385 390 395 400

Arg Tyr Ser Glu Ala Leu Thr Leu Gly Gly Ser Leu Ala Phe Gln Arg
405 410 415

Ser Arg Asp Lys Leu Asp His Gly Gly Arg Ile Glu Gly Asp Thr Trp
420 425 430

Gln Leu Gly Leu Phe Gly Leu Tyr Asn Asp Gly Gly Pro Glu Trp Leu
435 440 445

Ala Gly Glu Leu Asn Leu Gly His Thr Arg Tyr Asp Ser Lys Arg Ser
450 455 460

Val Tyr Leu Gln Ala Ala Gly Gly Pro Val Leu Leu Asp Gln Arg Leu
465 470 475 480

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Ser Gly Asp Thr Ser Ala Trp Ser Trp Gly Ala Arg Leu Glu Gly Gly
485 490 495

Tyr Asp Phe Ser Phe Gly Glu Leu Arg Ser Gly Pro Leu Ala Gly Leu
500 505 510

Asp Tyr Met His Tyr Arg Ile Asp Asp Phe Arg Glu Asp Glu Ala Leu
515 520 525

Arg Thr Ala Leu Gly Tyr Glu Lys Gln Asp Tyr Asp Ser Leu Glu Ala
530 535 540

Ser Leu Gly Trp Arg Leu Arg Gly Glu Leu Ala Leu Gly Ala Arg Met
545 550 555 560

Arg Leu Gln Pro Tyr Ala Ser Leu Arg Trp Val Arg Glu Leu Ala Asp
565 570 575

Gly Arg Leu Asp Asp Met Asp Leu Thr Ser Arg Gly Asp Gly Arg Val
580 585 590

Arg Val Ala Asp Met Gly Gly Val Asp Lys Asp Phe Gly Arg Ala Gln
595 600 605

Leu Gly Ala Gln Leu Ala Ile Thr Glu Gln Leu Gly Val Phe Ala Glu
610 615 620

Ala Asn Ser Arg Phe Ala His Ser Glu Gly Asn Gln Ala Gly Tyr Ser
625 630 635 640

Leu Gly Val Asn Trp Gln Phe
645

<210> 2

<211> 200

<212> PRT

eolf-seq1

<213> Pseudomonas aeruginosa

<400> 2

Met Lys Ala Leu Lys Thr Leu Phe Ile Ala Thr Ala Leu Leu Gly Ser
1 5 10 15

Ala Ala Gly Val Gln Ala Ala Asp Asn Phe Val Gly Leu Thr Trp Gly
20 25 30

Glu Thr Ser Asn Asn Ile Gln Lys Ser Lys Ser Leu Asn Arg Asn Leu
35 40 45

Asn Ser Pro Asn Leu Asp Lys Val Ile Asp Asn Thr Gly Thr Trp Gly
50 55 60

Ile Arg Ala Gly Gln Gln Phe Glu Gln Gly Arg Tyr Tyr Ala Thr Tyr
65 70 75 80

Glu Asn Ile Ser Asp Thr Ser Ser Gly Asn Lys Leu Arg Gln Gln Asn
85 90 95

Leu Leu Gly Ser Tyr Asp Ala Phe Leu Pro Ile Gly Asp Asn Asn Thr
100 105 110

Lys Leu Phe Gly Gly Ala Thr Leu Gly Leu Val Lys Leu Glu Gln Asp
115 120 125

Gly Lys Gly Phe Lys Arg Asp Ser Asp Val Gly Tyr Ala Ala Gly Leu
130 135 140

Gln Ala Gly Ile Leu Gln Glu Leu Ser Lys Asn Ala Ser Ile Glu Gly
145 150 155 160

Gly Tyr Arg Tyr Leu Arg Thr Asn Ala Ser Thr Glu Met Thr Pro His
165 170 175

Gly Gly Asn Lys Leu Gly Ser Leu Asp Leu His Ser Ser Ser Gln Phe

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180

185

190

Tyr Leu Gly Ala Asn Tyr Lys Phe
195 200

<210> 3

<211> 646

<212> PRT

<213> Pseudomonas aeruginosa

<400> 3

Met Ile Arg Met Ala Leu Lys Pro Leu Val Ala Ala Cys Leu Leu Ala
1 5 10 15

Ser Leu Ser Thr Ala Pro Gln Ala Ala Pro Ser Pro Tyr Ser Thr Leu
20 25 30

Val Val Phe Gly Asp Ser Leu Ser Asp Ala Gly Gln Phe Pro Asp Pro
35 40 45

Ala Gly Pro Ala Gly Ser Thr Ser Arg Phe Thr Asn Arg Val Gly Pro
50 55 60

Thr Tyr Gln Asn Gly Ser Gly Glu Ile Phe Gly Pro Thr Ala Pro Met
65 70 75 80

Leu Leu Gly Asn Gln Leu Gly Ile Ala Pro Gly Asp Leu Ala Ala Ser
85 90 95

Thr Ser Pro Val Asn Ala Gln Gln Gly Ile Ala Asp Gly Asn Asn Trp
100 105 110

Ala Val Gly Gly Tyr Arg Thr Asp Gln Ile Tyr Asp Ser Ile Thr Ala
115 120 125

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

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Asp Gly Tyr Leu Val Asp Arg Ala Arg Gln Gly Leu Gly Ala Asp Pro
145 150 155 160

Asn Ala Leu Tyr Tyr Ile Thr Gly Gly Gly Asn Asp Phe Leu Gln Gly
165 170 175

Arg Ile Leu Asn Asp Val Gln Ala Gln Gln Ala Ala Gly Arg Leu Val
180 185 190

Asp Ser Val Gln Ala Leu Gln Gln Ala Gly Ala Arg Tyr Ile Val Val
195 200 205

Trp Leu Leu Pro Asp Leu Gly Leu Thr Pro Ala Thr Phe Gly Gly Pro
210 215 220

Leu Gln Pro Phe Ala Ser Gln Leu Ser Gly Thr Phe Asn Ala Glu Leu
225 230 235 240

Thr Ala Gln Leu Ser Gln Ala Gly Ala Asn Val Ile Pro Leu Asn Ile
245 250 255

Pro Leu Leu Leu Lys Glu Gly Met Ala Asn Pro Ala Ser Phe Gly Leu
260 265 270

Ala Ala Asp Gln Asn Leu Ile Gly Thr Cys Phe Ser Gly Asn Gly Cys
275 280 285

Thr Met Asn Pro Thr Tyr Gly Ile Asn Gly Ser Thr Pro Asp Pro Ser
290 295 300

Lys Leu Leu Phe Asn Asp Ser Val His Pro Thr Ile Thr Gly Gln Arg
305 310 315 320

Leu Ile Ala Asp Tyr Thr Tyr Ser Leu Leu Ser Ala Pro Trp Glu Leu
325 330 335

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Thr Leu Leu Pro Glu Met Ala His Gly Thr Leu Arg Ala Tyr Gln Asp
340 345 350

Glu Leu Arg Ser Gln Trp Gln Ala Asp Trp Glu Asn Trp Gln Asn Val
355 360 365

Gly Gln Trp Arg Gly Phe Val Gly Gly Gly Gly Gln Arg Leu Asp Phe
370 375 380

Asp Ser Gln Asp Ser Ala Ala Ser Gly Asp Gly Asn Gly Tyr Asn Leu
385 390 395 400

Thr Leu Gly Gly Ser Tyr Arg Ile Asp Glu Ala Trp Arg Ala Gly Val
405 410 415

Ala Ala Gly Phe Tyr Arg Gln Lys Leu Glu Ala Gly Ala Lys Asp Ser
420 425 430

Asp Tyr Arg Met Asn Ser Tyr Met Ala Ser Ala Phe Val Gln Tyr Gln
435 440 445

Glu Asn Arg Trp Trp Ala Asp Ala Ala Leu Thr Gly Gly Tyr Leu Asp
450 455 460

Tyr Asp Asp Leu Lys Arg Lys Phe Ala Leu Gly Gly Gly Glu Arg Ser
465 470 475 480

Glu Lys Gly Asp Thr Asn Gly His Leu Trp Ala Phe Ser Ala Arg Leu
485 490 495

Gly Tyr Asp Ile Ala Gln Gln Ala Asp Ser Pro Trp His Leu Ser Pro
500 505 510

Phe Val Ser Ala Asp Tyr Ala Arg Val Glu Val Asp Gly Tyr Ser Glu
515 520 525

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Lys Gly Ala Ser Ala Thr Ala Leu Asp Tyr Asp Asp Gln Lys Arg Ser
530 535 540

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

Asp Thr Gln Leu Phe Ala Glu Tyr Ala His Glu Arg Glu Tyr Glu Asp
565 570 575

Asp Thr Gln Asp Leu Thr Met Ser Leu Asn Ser Leu Pro Gly Asn Arg
580 585 590

Phe Thr Leu Glu Gly Tyr Thr Pro Gln Asp His Leu Asn Arg Val Ser
595 600 605

Leu Gly Phe Ser Gln Lys Leu Ala Pro Glu Leu Ser Leu Arg Gly Gly
610 615 620

Tyr Asn Trp Arg Lys Gly Glu Asp Asp Thr Gln Gln Ser Val Ser Leu
625 630 635 640

Ala Leu Ser Leu Asp Phe
645

<210> 4

<211> 481

<212> PRT

<213> Pseudomonas aeruginosa

<400> 4

Met Thr Met Arg Arg Leu Met Thr Trp Leu Phe Gly Ala Phe Leu Leu
1 5 10 15

Leu Leu Arg Glu Asp Ala Phe Ala Leu Gly Leu Leu Asp Gly Tyr His
20 25 30

Leu Ala Leu Glu Asn Asp Pro Gln Phe Gln Ala Ala Ile Gln Glu His

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35

40

45

Glu Ala Gly Arg Gln Tyr Arg Ala Leu Gly Arg Ala Ala Leu Leu Pro
 50 55 60

Arg Leu Val Tyr Ser Tyr Asn Arg Gly Arg Ser Trp Ser Asp Val Thr
 65 70 75 80

Gln Thr Thr Thr Arg Gly Asp Phe Lys Glu Asp Arg Asp Tyr Asp Ser
 85 90 95

Tyr Val Ser Thr Leu Ser Leu Gln Gln Pro Leu Phe Asp Tyr Glu Ala
 100 105 110

Phe Ser Arg Tyr Arg Lys Gly Val Ala Gln Ala Leu Leu Ser Asp Glu
 115 120 125

Arg Phe Arg Ser Gln Ser Gln Glu Leu Leu Val Arg Val Leu Glu Ala
 130 135 140

Tyr Thr Gly Ala Leu Leu Ala Gln Asp Gln Ile Glu Leu Ala Arg Ala
 145 150 155 160

Gln Lys Arg Ser Tyr Arg Glu Gln Phe Gln Leu Asn Gln Arg Gln Phe
 165 170 175

Glu Arg Gly Asn Gly Thr Arg Thr Asp Thr Leu Glu Thr Gln Ala Arg
 180 185 190

Phe Asn Leu Ala Gln Ala Gln Glu Ile Glu Ala Arg Asp Ser Gln Asp
 195 200 205

Ala Ala Leu Arg Glu Leu Glu Arg Leu Val Gly Ala Pro Leu Glu Ile
 210 215 220

Ala Asp Leu Ala Pro Leu Gly Glu Arg Phe Gln Val Arg Pro Leu Ser

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225		230		235		240									
Pro	Ala	Ser	Tyr	Thr	Ala	Trp	Arg	Asp	Leu	Ala	Leu	Ala	Glu	Asn	Pro
				245					250					255	
Glu	Leu	Ala	Ser	Leu	Arg	His	Ala	Val	Asp	Val	Ala	Arg	Tyr	Glu	Val
			260					265					270		
Glu	Gln	Asn	Arg	Ala	Asp	Phe	Leu	Pro	Arg	Leu	Gly	Leu	Tyr	Ala	Ser
		275					280					285			
Thr	Gly	Lys	Ser	Lys	Ser	Gly	Ser	Glu	Asn	Thr	Tyr	Asn	Gln	Arg	Tyr
	290					295					300				
Glu	Thr	Asp	Ser	Val	Gly	Ile	Gln	Leu	Ser	Val	Pro	Leu	Phe	Ser	Gly
305					310					315					320
Gly	Glu	Thr	Leu	Ala	Ala	Thr	Arg	Gln	Ala	Thr	His	Arg	Met	Glu	Lys
				325					330					335	
Ser	His	Tyr	Asp	Leu	Asp	Asp	Lys	Val	Arg	Glu	Thr	Leu	Asn	Gln	Val
			340					345					350		
Arg	Lys	Met	Tyr	Asn	Gln	Ser	Ser	Ser	Ser	Ala	Ala	Lys	Ile	Arg	Ala
		355					360					365			
Tyr	Glu	Met	Thr	Val	Asp	Ser	Ala	Arg	Thr	Leu	Val	Met	Ala	Thr	Arg
	370					375					380				
Lys	Ser	Ile	Ala	Ala	Gly	Val	Arg	Val	Asn	Leu	Asp	Leu	Leu	Asn	Ala
385					390					395					400
Glu	Gln	Ala	Leu	Tyr	Ser	Ala	Met	Asn	Glu	Leu	Ser	Lys	Ala	Lys	Tyr
				405					410					415	
Asp	Tyr	Leu	Thr	Ala	Trp	Ala	Arg	Leu	Arg	Phe	Tyr	Ala	Gly	Val	Leu

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420

425

430

Asp Glu Ala Asp Leu Glu Leu Val Ala Ala Asn Phe Val Ser Gly Glu
435 440 445

Thr Pro Ala Arg Arg Arg Asp Cys Ala Thr Thr Asp Cys Pro Ala Pro
450 455 460

Leu His Thr Leu Ser Lys Thr Asp Thr Glu Glu Asn Arg Ser Ala Leu
465 470 475 480

Asn

<210> 5

<211> 317

<212> PRT

<213> Pseudomonas aeruginosa

<400> 5

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

Leu Pro Gly Arg Ala Leu Leu Ala Ala Leu Leu Leu Ala Leu Leu Ala
20 25 30

Pro Leu Ala Gln Ala Glu Asp Gly Lys Arg Leu Arg Ile Gly Ile Thr
35 40 45

Leu His Pro Tyr Tyr Ser Tyr Val Ser Asn Ile Val Gly Asp Lys Ala
50 55 60

Glu Val Val Pro Leu Ile Pro Ala Gly Phe Asn Pro His Ala Tyr Glu
65 70 75 80

Pro Arg Ala Glu Asp Ile Lys Arg Ile Gly Thr Leu Asp Val Val Val
85 90 95

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Leu Asn Gly Val Gly His Asp Asp Phe Ala Glu Arg Met Ile Ala Ser
100 105 110

Ser Glu Lys Pro Gly Ile Pro Val Ile Glu Ala Asn Ala Lys Val Pro
115 120 125

Leu Leu Ala Ala Thr Gly Met Ala Ala Arg Gly Ala Gly Lys Val Val
130 135 140

Asn Pro His Thr Phe Leu Ser Ile Ser Ala Ser Ile Thr Gln Val Asn
145 150 155 160

Thr Ile Ala Arg Glu Leu Gly Lys Leu Asp Pro Ala Asn Ala Lys Ala
165 170 175

Tyr Thr Arg Asn Ala Arg Ala Tyr Ala Lys Arg Leu Arg Ala Leu Arg
180 185 190

Ala Asp Ala Leu Ala Arg Leu Asn Lys Ala Pro Ala Ala Asp Phe Arg
195 200 205

Val Ala Thr Ile His Gly Ala Tyr Asp Tyr Leu Leu Arg Glu Phe Gly
210 215 220

Leu Glu Val Thr Ala Val Val Glu Pro Ala His Gly Ile Glu Pro Ser
225 230 235 240

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

Lys Val Ile Phe Ser Glu Ile Asp Phe Pro Ser Thr Tyr Val Glu Thr
260 265 270

Ile Gln Arg Glu Ser Gly Val Lys Leu Tyr Ser Leu Ser His Ile Ser
275 280 285

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Tyr Gly Asp Tyr Ser Ala Gly Lys Tyr Glu Glu Glu Met Ala Arg Asn
 290 295 300

Leu Asp Thr Val Val Arg Ala Ile Gln Glu Ser Gly Ala
 305 310 315

<210> 6

<211> 321

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 6

Met Gln Pro Arg Leu Leu Leu Leu Pro Phe Leu Leu Ser Ser Leu Pro
 1 5 10 15

Ala Leu Ala Val Thr Phe Gln Thr Arg Leu Glu Ser Val Glu Trp Lys
 20 25 30

Val Glu Gly Asp Gln Phe Glu Cys Arg Leu Ser Gln Pro Val Ala Asn
 35 40 45

Phe Gly Val Gly Glu Phe Val Arg Arg Ala Gly Glu Gln Ala Thr Phe
 50 55 60

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

Leu Ala Ala Ala Pro Pro Trp Arg Pro Gly Gln Gly Asp Ile Asn Leu
 85 90 95

Gly Gln Val Ser Ile Gly Ser Gly Glu Val Pro Phe Asn Ser Ser Gln
 100 105 110

Gln Gln Ala Gly Arg Leu Leu Thr Gly Leu Leu Glu Gly Arg Ser Pro
 115 120 125

Leu Val Arg His Arg Thr Trp Gln Gly Asp Arg Leu Glu Val Arg Leu

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130

135

140

Leu Pro Ala Arg Phe Ala Ser Val Tyr Ser Gln Tyr Gln Ala Cys Ile
 145 150 155 160

Ala Lys Leu Leu Pro Val Asn Phe Asp Gln Val Lys Leu Ala Gln Val
 165 170 175

Gly Phe Pro Asp Gly Gly Thr Ala Leu Asn Asp Val Ala Arg Ala Lys
 180 185 190

Leu Asp Ile Ile Leu Gln Leu Leu Lys Ala Asp Pro Ser Ile Asn Arg
 195 200 205

Ile Glu Leu Asp Gly His Ser Asp Asn Ser Gly Asn Arg Leu Thr Asn
 210 215 220

Arg Asp Leu Ser Arg Arg Arg Ala Leu Ala Val Gln Glu Tyr Leu Lys
 225 230 235 240

Ser Asn Gly Val Pro Glu Ser Gln Ile Asn Val Arg Phe Tyr Gly Glu
 245 250 255

Arg Tyr Pro Leu Val Ala Asn Asn Ser Ala Ala Asn Arg Ala Arg Asn
 260 265 270

Arg Arg Val Thr Val His Leu Ser Arg Glu Ala Val Val Glu Pro Ala
 275 280 285

Thr Glu Ala Pro Lys Ala Glu Asp Lys Pro Ala Pro Pro Ala Ala Glu
 290 295 300

Pro Ala Ala Pro Lys Pro Pro Ala Ala Ser Leu Gln Gly Lys Pro Thr
 305 310 315 320

Val

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<210> 7

<211> 1018

<212> PRT

<213> Pseudomonas aeruginosa

<400> 7

Met Asn Lys Cys Tyr Ala Leu Val Trp Asn Val Ser Gln Gly Cys Trp
1 5 10 15

Asn Val Val Ser Glu Gly Ser Arg Arg Arg Gly Lys Pro Ala Gly Ala
20 25 30

Lys Ala Ala Ile Ala Ser Val Leu Ala Leu Leu Gly Ala Thr Ala Leu
35 40 45

Ala Pro Ala Tyr Ala Leu Pro Ser Gly Gly Thr Val Val Gly Gly Ser
50 55 60

Ala Asn Gly Glu Ile His Leu Ser Gly Gly Asn Ser Leu Ser Val Asn
65 70 75 80

Gln Lys Val Asp Lys Leu Ile Ala Asn Trp Asp Ser Phe Ser Val Ala
85 90 95

Ala Gly Glu Arg Val Ile Phe Asn Gln Pro Ser Ser Ser Ser Ile Ala
100 105 110

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

Asp Ala Asn Gly Gln Val Phe Leu Val Asn Pro Asn Gly Val Leu Phe
130 135 140

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

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Asp Ile Thr Asp Ala Glu Phe Asn Gly Asn Ser Ser Arg Tyr Arg Phe
165 170 175

Thr Gly Pro Ser Thr Asn Gly Val Leu Asn His Gly Gly Ala Ile Thr
180 185 190

Ala Ala Glu Gly Gly Ser Ile Ala Leu Leu Gly Ala Gln Val Asp Asn
195 200 205

Arg Gly Thr Val Leu Ala Gln Met Gly Gly Val Gly Leu Gly Ala Gly
210 215 220

Ser Asp Leu Thr Leu Asn Phe Asp Gly Asn Lys Leu Leu Asp Ile Arg
225 230 235 240

Val Asp Ala Gly Val Ala Asn Ala Leu Ala Ser Asn Gly Gly Leu Leu
245 250 255

Lys Ala Asp Gly Gly Arg Val Leu Met Ala Ala Arg Thr Ala Asn Ala
260 265 270

Leu Leu Asn Thr Val Val Asn Ser Gln Gly Ala Ile Glu Ala Arg Ser
275 280 285

Leu Arg Gly Lys Asn Gly Arg Ile Val Leu Asp Gly Gly Pro Asp Gly
290 295 300

Lys Val Met Val Gly Gly Ala Leu Ser Ala Asn Ala Leu Asn Gly Pro
305 310 315 320

Gly His Gly Gly Thr Val Glu Val Arg Gly Gln Ala Val Glu Val Ala
325 330 335

Leu Gly Thr Gln Val Asn Thr Leu Ala Ser Asn Gly Leu Asn Gly Thr
340 345 350

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Trp Lys Ile Ala Ala Asp Lys Ile Asp Val Arg Pro Ser Ala Val Ser
355 360 365

Asp Gly Val Thr Val His Ala Asp Thr Leu Ser Arg Asn Leu Ala Ser
370 375 380

Thr Asn Ile Glu Leu Val Ser Thr Lys Gly Asp Leu Asp Leu Asp Gly
385 390 395 400

Ser Val Asn Trp Ala Ser Gly Asn Arg Leu Gly Leu Gly Ser Ala Ala
405 410 415

Asp Leu Thr Leu Asn Gly Arg Leu Asn Ala Ser Gly Ala Lys Ala Gly
420 425 430

Leu Glu Leu Lys Ala Glu Gly Ala Ile Asp Ile Asn Asp Lys Ile Val
435 440 445

Leu Gly Gly Ala Gly Ser Ala Leu Ala Met Asp Ala Gly Glu Gly His
450 455 460

Arg Val Asn Gly Thr Ala Ser Val Ser Leu Ala Gly Ala Asn Ala Thr
465 470 475 480

Tyr Val Ser Gly Gly Tyr Tyr Tyr Thr Val Val Gln Asn Leu Ala Gln
485 490 495

Leu Gln Ala Ile Asn Lys Asn Leu Asp Gly Leu Tyr Val Leu Gly Gly
500 505 510

Asn Ile Leu Gly Gly Ser Tyr Tyr Cys Thr Ala Leu Gln Ser Ile Gly
515 520 525

Gly Pro Ala Gly Val Phe Ser Gly Thr Leu Asp Gly Leu Gly Asn Ser
530 535 540

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Ile Gly Asn Leu Ser Ile Ser Asn Thr Gly Pro Asn Val Gly Leu Phe
545 550 555 560

Ala Arg Ser Ser Gly Thr Leu Ser Asn Leu Lys Leu Asn Asn Leu Arg
565 570 575

Val Ser Asp Asn Thr Tyr Gly Ser Gly Pro Ser Ser Leu Gly Ala Leu
580 585 590

Val Gly Ile Asn Ser Gly Arg Ile Ala Asn Val Ser Ala Ser Gly Val
595 600 605

Ser Val Val Gly Ser Arg Leu Arg Ser Asn Ala Leu Gly Gly Leu Val
610 615 620

Gly Arg Asn Ile Ser Gly Gln Ile Ala Asn Ala Ser Val Ser Gly Gly
625 630 635 640

Val Thr Gly Tyr Ala Ala Ser Thr Ala Val Gly Gly Leu Val Gly Glu
645 650 655

Asn Phe Thr Thr Ala Trp Gly Pro Glu Ala Val Ile Glu Asn Ala His
660 665 670

Ser Asn Val His Val Ala Ala Gln Ser Thr Glu Arg Asn Ser Leu Gly
675 680 685

Gly Val Gly Gly Leu Val Gly Leu Asn Ala Lys Gly Met Ile Arg Ala
690 695 700

Ser Gly Ser Gln Gly Lys Val Glu Thr Tyr Arg Pro Gly Leu Asn Val
705 710 715 720

Gly Gly Leu Val Gly Tyr Asn Met Phe Gly His Val Ser Asp Ser Ser
725 730 735

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Ala Ser Gly Gln Val Glu Ala Gly Gly Ala Gly Asn Thr Gly Gly Leu
740 745 750

Val Gly Leu Ser Ser Gly Gly Glu Ile Phe Arg Ser Gln Ala Ser Gly
755 760 765

Ser Val Tyr Ser Lys Gly Gly Leu Ala Thr Gly Gly Leu Ile Gly Lys
770 775 780

Ala Glu Gly Asn Gly Met Leu Gly Asn Leu Lys Ala Ser Gly Ser Val
785 790 795 800

Thr Asp Gln Gly Gly Ala Asp Leu Gly Gly Leu Val Gly Asn Asn Ser
805 810 815

Gln Ser Ala Ile Glu Thr Ala Glu Ala Thr Gly Lys Val Ser Gly Gly
820 825 830

Ser Asn Ser Arg Val Gly Gly Leu Ile Gly His Asn Leu Gly Gly Ser
835 840 845

Val Ala His Ala Ile Ser Arg Gly Asp Val Ser Gly Gly Phe Asn Ser
850 855 860

Leu Val Gly Gly Leu Val Gly His Asn Gly Gly Glu Leu Val Asn Val
865 870 875 880

Asp Ala Ser Gly Arg Val Ser Ala Ala Ala Ser Ala Ser Val Gly Gly
885 890 895

Leu Val Gly Ser Asn Ala Gly Ser Ile Leu Ser Ala Arg Ser Ser Ser
900 905 910

Thr Val Asn Gly Ser Gly Arg Ser Arg Ile Gly Gly Leu Val Gly Glu
915 920 925

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Asn Gln Ile Gln Gly Arg Ile Val Ser Ser Met Ser Glu Gly Thr Val
 930 935 940

Ser Gly Asp Tyr Tyr Val Ser Met Gly Gly Leu Ala Gly Leu Asn Leu
 945 950 955 960

Gly Ser Ile Glu Tyr Ser Gly Val Ser Gly Lys Ile Asp Phe Lys Pro
 965 970 975

Gln Ser His Tyr Gly Gln Ile Tyr Gly Ala Gln Val Gly Glu Asn His
 980 985 990

Gly Val Leu Gly Gly Asn Tyr Val Ile Gly Glu Ala Ala Leu Leu Pro
 995 1000 1005

Pro Ala Gly Ile Asp Tyr Gly Asn Ile Trp
 1010 1015

<210> 8

<211> 176

<212> PRT

<213> Pseudomonas aeruginosa

<400> 8

Met Gln Asn Ala Lys Leu Met Leu Thr Cys Leu Ala Phe Ala Gly Leu
 1 5 10 15

Ala Ala Leu Ala Gly Cys Ser Phe Pro Gly Val Tyr Lys Ile Asp Ile
 20 25 30

Gln Gln Gly Asn Val Val Thr Gln Asp Met Ile Asp Gln Leu Arg Pro
 35 40 45

Gly Met Thr Arg Arg Gln Val Arg Phe Ile Met Gly Asn Pro Leu Ile
 50 55 60

Val Asp Thr Phe His Ala Asn Arg Trp Asp Tyr Leu Tyr Ser Ile Gln

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65		70		75		80									
Pro	Gly	Gly	Gly	Arg	Arg	Gln	Gln	Glu	Arg	Val	Ser	Leu	Phe	Phe	Asn
				85					90					95	
Asp	Ser	Asp	Gln	Leu	Ala	Gly	Leu	Asn	Gly	Asp	Phe	Met	Pro	Gly	Val
			100					105					110		
Ser	Arg	Asp	Glu	Ala	Ile	Leu	Gly	Lys	Glu	Gly	Ser	Thr	Thr	Val	Thr
		115					120					125			
Gln	Pro	Ala	Asp	Gln	Gln	Lys	Pro	Glu	Ala	Gln	Lys	Glu	Glu	Pro	Pro
	130					135					140				
Lys	Pro	Gly	Ser	Thr	Leu	Glu	Gln	Leu	Gln	Arg	Glu	Val	Asp	Glu	Ala
145					150					155					160
Gln	Pro	Val	Pro	Val	Pro	Thr	Pro	Glu	Pro	Leu	Asp	Pro	Ser	Pro	Gln
			165						170					175	

<210> 9
 <211> 479
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 9
Met Lys Thr Ala Trp Leu Leu Leu Leu Leu Gly Val Gly Ala Leu
1 5 10 15
Gly Gly Cys Ala Val Asn Pro Ala Thr Gly Lys Ser Asp Phe Val Met
20 25 30
Met Ser Glu Gln Gln Glu Leu Gly Met Gly Ala Arg Tyr Asn Gln Glu
35 40 45
Ile Leu Lys Gln Phe Pro Arg Tyr Asn Asp Glu Lys Leu Gln Ala Tyr
50 55 60

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Val Gln Arg Val Gly Glu Arg Val Ala Arg Ser Ser His Arg Ser Asn
65 70 75 80

Leu Gln Tyr His Phe Thr Val Ile Asp Ser Pro Asp Ile Asn Ala Phe
85 90 95

Ala Leu Pro Gly Gly Tyr Ile Tyr Ile His Arg Gly Leu Ile Ala Tyr
100 105 110

Leu Gly Ser Glu Ala Glu Leu Ala Ala Val Leu Gly His Glu Val Gly
115 120 125

His Val Thr Ala Arg His Ser Val Arg Gln Gln Ser Gln Ala Ser Ala
130 135 140

Trp Asn Ile Leu Gly Gln Ala Val Ala Ile Gly Thr Gly Val Gly Ala
145 150 155 160

Ala Gly Asp Leu Ala Asn Val Leu Gly Thr Ala Phe Val Arg Gly Tyr
165 170 175

Gly Arg Asp Met Glu Leu Glu Ala Asp Gly Leu Gly Ala Gln Tyr Leu
180 185 190

Ala Arg Ala Gly Tyr Asp Pro Thr Ala Met Ile Gln Val Val Arg Val
195 200 205

Leu Lys Asn Gln Glu Asp Phe Ala Arg Glu Glu Ala Ala Arg Asn Gly
210 215 220

Gln Ala Val Gln Ala Gly Gly Tyr His Gly Leu Phe Asp Thr His Pro
225 230 235 240

Asp Asn Asp Arg Arg Leu Gln Glu Val Val Gly Pro Ala Arg Gln Leu
245 250 255

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Ala Asn Gly Gln Gln Glu Val Gly Arg Glu Val Phe Leu Arg His Leu
260 265 270

Glu Gly Met Pro Phe Gly Asp Ser Ala Ser Ala Gly Val Arg Arg Gly
275 280 285

Gln Asn Phe Tyr His Ala Glu Leu Asp Phe Thr Leu Ser Tyr Pro Ala
290 295 300

Gly Trp Lys Ile Leu Asn Gln Pro Ser Ala Leu Leu Gly Tyr Pro Ala
305 310 315 320

Asp Glu Gln Ser Phe Ile Gly Met Lys Leu Val Pro His Asp Ser Arg
325 330 335

Leu Thr Pro Ala Glu Phe Leu Arg Lys Asn Ala Gly Gln Arg Leu Ala
340 345 350

Gln Glu Glu Ser Leu Lys Gln Ala Gly Leu Asn Gly Tyr Thr Ala Val
355 360 365

Val Pro Gly Asn Pro Ala Arg Arg Val Ala Val Ile Tyr Gln Gly Asp
370 375 380

Arg Ala Tyr Leu Phe Val Gly Val Val Lys Val Gly Ser Leu Glu Thr
385 390 395 400

Gln Asp Asp Arg Phe Leu Ser Val Ile Arg Ser Phe Arg Pro Leu Arg
405 410 415

Asp Lys Glu Arg Ala Leu Ala Gln Pro Arg Arg Leu His Leu Val Gln
420 425 430

Val Lys Ala Gly Gln Thr Leu Glu Gln Leu Ala Ala Gly Gly Glu Gly
435 440 445

eolf-seql

Ser Leu Ser Asp Ser Val Ala Arg Leu Arg Leu Leu Asn Asp Leu Tyr
 450 455 460

Pro Ser Gly Glu Pro Arg Pro Gly Asp Trp Leu Lys Val Val Arg
 465 470 475

<210> 10

<211> 243

<212> PRT

<213> Pseudomonas aeruginosa

<400> 10

Met Arg Arg Val Ile Phe Leu Ala Ala Ala Ala Thr Leu Leu Ala Gly
 1 5 10 15

Cys Ala Gly Thr Ala Asp Pro Ser Gly Thr Trp Ile Asn Gln Ala Ala
 20 25 30

Ile Asp Ala Ala Ser Lys Asp Gly Lys Leu Arg Glu Ala Leu Leu Ala
 35 40 45

Tyr Gly Pro Asn Leu Glu Trp Lys Leu Asp Ser Lys Ala Gly Glu Ala
 50 55 60

Thr Phe Ser Asn Gly Phe Glu Leu Gly Glu Gly Thr Leu Ser Lys Ser
 65 70 75 80

Asp Asp Glu His Trp Lys Val Ala Phe Tyr Gly Asp Asp Asn Gln Glu
 85 90 95

Ser Leu Glu Leu Asp Gly Lys Glu Leu Ile Gln Gln Ala Ser Ala Asn
 100 105 110

Gly Pro Glu Gln Arg Phe Arg Arg Leu Asp Pro Gln Pro Ala Ala Ser
 115 120 125

Ser Pro Ala Gly Ser Gly Phe Glu Arg Ala Leu Tyr Gly Ser Tyr Leu

eolf-seql

130

135

140

Lys Gly Ser Trp Lys Ile Arg Glu Gly Gln Gly Gln Gly Gly Lys Val
145 150 155 160

Glu Phe Gln Ala Asn Gly Leu Val Ser Gly Leu Pro Gly Ala Glu Arg
165 170 175

Tyr Ala Leu Cys Leu Ala Gly Asp Cys Ala Ala Met Ser Gly Asp Asn
180 185 190

Asp Ser Ile Trp Leu Gln Gln Gly Asn Arg Gly Arg Glu Leu Leu Phe
195 200 205

Ser Leu Asp Asp Asp Glu Leu Gln Leu Phe Glu Ala Val Asn Thr Ala
210 215 220

Gly Ala Asn Glu Met Pro Ser Tyr Val Pro Gly Lys Arg Val Trp Leu
225 230 235 240

Leu Glu Arg

<210> 11

<211> 924

<212> PRT

<213> Pseudomonas aeruginosa

<400> 11

Met Ala Val Lys Ser Leu Val Phe Arg Arg Lys Phe Pro Leu Leu Val
1 5 10 15

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

Ala Ala Asp Gln Phe Asp Cys Lys Val Ser Ala Thr Gly Gly Trp Asp
35 40 45

eolf-seql

Cys Ser Pro Leu Gln Asn Ala Asn Ala Asn Leu Pro Pro Arg Pro Ala
50 55 60

His Thr Ala Thr Ser Val Ser Thr Ala Ala Ala Gly Ser Ser Val Ser
65 70 75 80

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

Thr Glu Ser Gly Gly Arg Ala Leu Lys Ser Arg Ser Ala Asp Tyr Ser
100 105 110

His Leu Asp Trp Ile Pro Arg Glu Lys Leu Thr Ala Ala Gln Leu Ala
115 120 125

Glu Ile Gly Pro Tyr Cys Gly Gly Ser Tyr Ile Glu Pro Val Arg Pro
130 135 140

Gly Met Asp Asp Gly Ala Pro Ser Asp Glu Ser Pro Thr Tyr Val Ser
145 150 155 160

Ala Lys Ala Ser Arg Tyr Glu Gln Glu Lys Gln Ile Ala Thr Leu Ala
165 170 175

Gly Asp Val Val Leu Arg Gln Gly Ser Met Gln Val Glu Gly Asp Glu
180 185 190

Ala Asn Leu His Gln Leu Glu Asn Arg Gly Glu Leu Val Gly Asn Val
195 200 205

Lys Leu Arg Asp Lys Gly Met Leu Val Val Gly Asp His Ala Gln Val
210 215 220

Gln Leu Asp Asn Gly Glu Ala Gln Val Asp Asn Ala Glu Tyr Val Ile
225 230 235 240

eolf-seql

His Lys Ala His Ala Arg Gly Ser Ala Leu Tyr Ala Lys Arg Ser Glu
245 250 255

Asn Ala Ile Ile Met Leu Lys Asp Gly Thr Tyr Thr Arg Cys Glu Pro
260 265 270

Ser Ser Asn Ala Trp Thr Leu Lys Gly Asn Asn Val Lys Leu Asn Pro
275 280 285

Ala Thr Gly Phe Gly Thr Ala Thr Asn Ala Thr Leu Arg Val Lys Asp
290 295 300

Phe Pro Val Phe Tyr Thr Pro Tyr Ile Tyr Phe Pro Ile Asp Asp Arg
305 310 315 320

Arg Gln Ser Gly Phe Leu Pro Pro Ser Phe Ser Ser Thr Ser Asp Thr
325 330 335

Gly Phe Thr Leu Val Thr Pro Tyr Tyr Phe Asn Leu Ala Pro Asn Tyr
340 345 350

Asp Ala Thr Leu Tyr Pro Arg Tyr Met Ala Lys Arg Gly Met Met Leu
355 360 365

Glu Gly Glu Phe Arg Tyr Leu Thr His Ser Ser Glu Gly Ile Val Asn
370 375 380

Ala Ala Tyr Leu Asn Asp Lys Asp Asp His Arg Glu Gly Phe Pro Asp
385 390 395 400

Tyr Ser Lys Asp Arg Trp Leu Tyr Gly Leu Lys Asn Thr Thr Gly Leu
405 410 415

Asp Ser Arg Trp Leu Ala Glu Val Asp Tyr Thr Arg Ile Ser Asp Pro
420 425 430

eolf-seql

Tyr Tyr Phe Gln Asp Leu Asp Thr Asp Leu Gly Val Gly Ser Thr Thr
435 440 445

Tyr Val Asn Gln Arg Gly Thr Leu Thr Tyr Arg Gly Asp Thr Phe Thr
450 455 460

Gly Arg Leu Asn Ala Gln Ala Tyr Gln Leu Ala Thr Thr Thr Asp Val
465 470 475 480

Thr Pro Tyr Asp Arg Leu Pro Gln Ile Thr Phe Asp Gly Phe Leu Pro
485 490 495

Tyr Asn Pro Gly Gly Met Gln Phe Thr Tyr Gly Thr Glu Phe Val Arg
500 505 510

Phe Asp Arg Asp Leu Asp Glu Asn Ile Tyr Phe Asn Asp Asp Gly Ser
515 520 525

Ile Arg Gly Lys Arg Pro Asp Ala Ser Leu Gln Gly Leu Ala Arg Ala
530 535 540

Thr Gly Asp Arg Met His Leu Glu Pro Gly Met Ser Leu Pro Met Thr
545 550 555 560

Arg Ser Trp Gly Tyr Val Thr Pro Thr Leu Lys Tyr Leu Tyr Thr Lys
565 570 575

Tyr Asp Leu Asp Leu Asp Ser Gln Gly Lys Thr Asp Leu Asn Lys Arg
580 585 590

Asp Glu Ser Phe Asp Ser Asn Gln Asp Arg Ser Leu Pro Leu Val Lys
595 600 605

Val Asp Ser Gly Leu Tyr Phe Asp Arg Asp Thr Thr Phe Ala Gly Thr
610 615 620

eolf-seql

Pro Phe Arg Gln Thr Leu Glu Pro Arg Ala Met Tyr Leu Tyr Val Pro
625 630 635 640

Tyr Lys Asp Gln Asp Ser Leu Pro Val Phe Asp Thr Ser Glu Pro Ser
645 650 655

Phe Ser Tyr Asp Ser Leu Trp Arg Glu Asn Arg Phe Thr Gly Lys Asp
660 665 670

Arg Ile Gly Asp Ala Asn Gln Leu Ser Leu Gly Val Thr Ser Arg Phe
675 680 685

Ile Glu Glu Asn Gly Phe Glu Arg Ala Ser Ile Ser Ala Gly Gln Ile
690 695 700

Tyr Tyr Phe Arg Asp Arg Arg Val Gln Leu Pro Gly Leu Thr Glu Lys
705 710 715 720

Asp Leu Lys Arg Leu Asn Leu Asp Pro Ser Gly Leu Asp Asn Asp Ser
725 730 735

Trp Arg Ser Pro Tyr Ala Phe Ala Gly Gln Tyr Arg Phe Asn Arg Asp
740 745 750

Trp Arg Ile Asn Ser Asp Phe Asn Trp Asn Pro Asn Thr Ser Arg Thr
755 760 765

Glu Ser Gly Ser Ala Ile Phe His Tyr Gln Pro Glu Val Asp Pro Gly
770 775 780

Lys Val Val Asn Val Gly Tyr Arg Tyr Arg Ala Asp Ala Arg Arg Phe
785 790 795 800

Asp Ser Ser Arg Gly Thr Phe Arg Tyr Gly Asn Glu Asn Asp Ile Ile
805 810 815

eolf-seql

Lys Gln His Asp Phe Ser Val Ile Trp Pro Leu Val Pro Gln Trp Ser
820 825 830

Val Leu Ala Arg Trp Gln Tyr Asp Tyr Asn Lys Asn Arg Thr Leu Glu
835 840 845

Ala Phe Gly Gly Phe Glu Tyr Asp Ser Cys Cys Trp Lys Leu Arg Leu
850 855 860

Ile Asn Arg Tyr Trp Leu Asp Val Asp Asp Asp Ala Phe Leu Val Gln
865 870 875 880

Ser Glu Lys Ala Asp Arg Gly Ile Phe Leu Gln Ile Val Leu Lys Gly
885 890 895

Leu Gly Gly Ile Val Gly Asn Lys Thr Glu Met Phe Leu Asp Lys Gly
900 905 910

Ile Gln Gly Tyr Arg Gln Arg Glu Asp Gln Ala Met
915 920

<210> 12

<211> 340

<212> PRT

<213> Pseudomonas aeruginosa

<400> 12

Met Lys Ala Thr Met Val Leu Thr Pro Leu Ala Leu Ala Met Ala Ala
1 5 10 15

Val Leu Ser Val Ser Ala Tyr Ala Gly Asn Glu Gly Gly Trp His Pro
20 25 30

Pro Lys Pro Asn Pro Gln Ser Asn Asn Lys Gly Gly Ala Thr Ala Leu
35 40 45

Val Val Asp Thr Gln Gln Asn Tyr Asn Asn Lys Val Ser Asn Phe Gly

eolf-seql

50

55

60

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

Asn Val Gly Val Asn Val Ala Ala Gly Asp Asn Asn Gln Gln Ala Asn
 85 90 95

Ala Ala Ala Leu Ala Ser Ala Asp Ala Ser Phe Val Phe Gly Thr Ala
 100 105 110

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

Asn Tyr Ser Asn Pro Asn Thr Ala Ser Leu Ser Asn Ser Ala Asn Asn
 130 135 140

Val Ser Gly Asn Leu Gly Val Asn Val Ala Ala Gly Asn Phe Asn Gln
 145 150 155 160

Gln Lys Asn Asp Leu Ala Ala Ala Val Ser Asn Gly Gln Tyr Ser Thr
 165 170 175

Ala Gly Ser Ala Ala Ser Gln Thr Ser Thr Gly Asn Thr Thr Val Asn
 180 185 190

Ser Ala Asn Tyr Ala Tyr Gly Gly Thr Tyr Val Ser Leu Lys Leu Asn
 195 200 205

Ala Asp Gly Ser Tyr Lys Gly Thr Ser Asp Gln Ile Gly Asp Val Tyr
 210 215 220

Leu Asp Thr Trp Glu Gly Gln Thr His Pro Gly Gly Ser Asn Thr Gly
 225 230 235 240

His Ile Asp Val Asp Ser Gln Ala Gln Gly Ala Lys Asp Leu Asn His

eolf-seq1

245

250

255

Asp Gly Gly Ala Phe Ala Phe Lys Glu Lys Gly Asp Val Asp Leu Lys
 260 265 270

Gly Thr Val Ser Gly Phe Ile Pro Ala Ile Val Gly Phe Lys Thr Pro
 275 280 285

Val Thr Asn Asn Ala Ser Leu Ser Asn Ser Leu Gln Asn Val Ser Gly
 290 295 300

Asn Val Gly Val Asn Ile Ala Ala Gly Gly Gly Asn Gln Gln Ser Asn
 305 310 315 320

Ser Leu Ser Ile Ala Ala Gly Cys Ser Ser Cys Pro Ala Gly Gly Glu
 325 330 335

Ser Leu Gly Phe
 340

<210> 13

<211> 261

<212> PRT

<213> Pseudomonas aeruginosa

<400> 13

Met Arg Lys Tyr Ile Ala Leu Pro Ala Val Ser Leu Leu Ala Leu Ala
 1 5 10 15

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

Ser Asn Phe Ser Ala Leu Gln Ser Gln Pro Asp Ala Thr Lys Val Ala
 35 40 45

Ala Leu Glu Thr Lys Asp Ala Gly Asp Trp Leu Ala Lys Ala Asp Lys
 50 55 60

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Ala Tyr Gln Asp Gly Glu Asp Gln Arg Asp Val Asp Gln Leu Ala Tyr
65 70 75 80

Leu Thr Asn Gln Arg Ile Glu Leu Ala Lys Gln Thr Ile Val Leu Arg
85 90 95

Asn Ala Glu Ala Gln Leu Gln Asn Ala Ser Ala Gln Arg Ala Gln Ala
100 105 110

Arg Leu Asp Ala Arg Thr Ala Gln Leu Asp Lys Leu Arg Ser Gln Leu
115 120 125

Asn Ala Lys Gln Thr Ser Arg Gly Thr Met Val Thr Phe Gly Asp Val
130 135 140

Leu Phe Asp Leu Asp Lys Ser Asp Leu Lys Pro Gly Ala Met Arg Asn
145 150 155 160

Ile Gln Gln Leu Ala Glu Phe Leu Gln Gln Asn Pro Glu Arg Gln Val
165 170 175

Ile Val Glu Gly Tyr Thr Asp Ser Thr Gly Ser Ala Asn Tyr Asn Gln
180 185 190

Arg Leu Ser Glu Arg Arg Ala Asp Ser Val Arg Met Ala Leu Leu Ser
195 200 205

Arg Gly Ile Ser Pro Glu Arg Val Ala Thr Arg Gly Tyr Gly Lys Glu
210 215 220

Tyr Pro Val Ala Ser Asn Gly Thr Ser Ser Gly Arg Ala Met Asn Arg
225 230 235 240

Arg Val Glu Val Thr Ile Ser Asn Asp Ala Lys Pro Val Ala Pro Arg
245 250 255

eolf-seql

Ser Ser Val Ser Gly
260

<210> 14

<211> 446

<212> PRT

<213> Pseudomonas aeruginosa

<400> 14

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

Ser Leu Ala Gly Cys Gly Asp Asp Lys Lys Ala Glu Ala Pro Ala Thr
20 25 30

Pro Ala Ala Ser Thr Gln Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala
35 40 45

Lys Val Asp Glu Ala Ala Ala Lys Ala Val Ile Lys Asn Tyr Ala Asp
50 55 60

Leu Ala Glu Ala Thr Phe Ala Asp Ala Leu Ser Thr Ala Lys Asp Leu
65 70 75 80

Gln Lys Ala Ile Asp Ala Phe Leu Ala Lys Pro Asp Ala Glu Thr Leu
85 90 95

Lys Ala Ala Lys Glu Ala Trp Phe Ala Ala Arg Thr Pro Tyr Ser Gln
100 105 110

Ser Glu Ala Phe Arg Phe Gly Asn Ala Ile Ile Asp Asp Trp Glu Gly
115 120 125

Gln Val Asn Ala Trp Pro Leu Asp Glu Gly Leu Ile Asp Tyr Val Ala
130 135 140

Lys Asp Tyr Gln His Ala Leu Gly Asn Pro Gly Ala Thr Ala Asn Ile

eolf-seql

145		150		155		160									
Val	Ala	Asn	Thr	Glu	Ile	Gln	Val	Gly	Glu	Asp	Lys	Ile	Asp	Val	Lys
				165					170					175	
Glu	Ile	Thr	Gly	Glu	Lys	Leu	Ala	Ser	Leu	Asn	Glu	Leu	Gly	Gly	Ser
			180					185					190		
Glu	Ala	Asn	Val	Ala	Thr	Gly	Tyr	His	Ala	Ile	Glu	Phe	Leu	Leu	Trp
		195					200					205			
Gly	Gln	Asp	Leu	Asn	Gly	Thr	Gly	Pro	Gly	Ala	Gly	Asn	Arg	Pro	Ala
	210					215					220				
Thr	Asp	Tyr	Ala	Gln	Gly	Lys	Asp	Cys	Thr	Gly	Gly	His	Cys	Asp	Arg
225					230					235					240
Arg	Ala	Ala	Tyr	Leu	Lys	Ala	Val	Thr	Asp	Leu	Leu	Val	Ser	Asp	Leu
				245					250					255	
Glu	Tyr	Met	Ala	Gly	Gln	Trp	Lys	Ala	Gly	Val	Ala	Asp	Asn	Tyr	Arg
			260					265					270		
Ala	Lys	Leu	Glu	Ala	Glu	Pro	Val	Asp	Thr	Gly	Leu	Arg	Lys	Met	Phe
		275					280					285			
Phe	Gly	Met	Gly	Ser	Leu	Ser	Leu	Gly	Glu	Leu	Ala	Gly	Glu	Arg	Met
	290					295					300				
Lys	Val	Ala	Leu	Glu	Ala	Asn	Ser	Thr	Glu	Asp	Glu	His	Asp	Cys	Phe
305					310					315					320
Ser	Asp	Asp	Thr	His	His	Thr	Leu	Phe	Phe	Asn	Gly	Lys	Ser	Ile	Arg
				325					330					335	
Asn	Ile	Tyr	Leu	Gly	Glu	Tyr	Lys	Arg	Ile	Asp	Gly	Ser	Val	Val	Lys

eolf-seql

340

345

350

Gly Pro Ser Leu Ala Asp Leu Val Ala Lys Ala Asp Ala Ala Ala Asn
355 360 365

Asp Thr Leu Lys Ala Asp Leu Ala Asp Thr Glu Ala Lys Leu Gln Ala
370 375 380

Ile Val Asp Ser Ala Glu Lys Asp Gly Val His Phe Asp Gln Met Ile
385 390 395 400

Ala Pro Asp Asn Lys Asp Gly Gln Gln Lys Ile Arg Asp Ala Ile Ala
405 410 415

Ala Leu Val Lys Gln Thr Gly Ala Ile Glu Gln Ala Ala Gly Lys Leu
420 425 430

Gly Ile Gln Asp Leu Lys Pro Asp Asn Ala Asp His Glu Phe
435 440 445

<210> 15

<211> 764

<212> PRT

<213> Pseudomonas aeruginosa

<400> 15

Met Pro Leu Ser Pro Pro Phe Ala Leu Arg Pro Cys Leu Ala Leu Leu
1 5 10 15

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

Pro Thr Thr Ile Thr Ala Thr Arg Thr Glu Gln Ala Val Asp Ser Val
35 40 45

Pro Ser Thr Val Ser Val Gln Thr Arg Glu Gln Leu Asp Arg Gln Asn
50 55 60

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Val Asn Asn Ile Lys Glu Leu Val Arg Tyr Glu Pro Gly Val Ser Val
65 70 75 80

Gly Gly Ala Gly Gln Arg Ala Gly Ile Thr Gly Tyr Asn Ile Arg Gly
85 90 95

Ile Asp Gly Asn Arg Ile Leu Thr Gln Ile Asp Gly Val Glu Leu Pro
100 105 110

Asn Asp Phe Phe Ser Gly Pro Tyr Ala Gln Thr His Arg Asn Tyr Val
115 120 125

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

Ala Leu Tyr Gly Ser Asn Ala Ile Gly Gly Ala Val Ser Tyr Phe Thr
145 150 155 160

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

Leu Lys Ala Gly Tyr Glu Ser Ala Ser His Ser Trp Leu Thr Ser Ala
180 185 190

Thr Val Ala Gly Arg Ala Asp Asp Phe Asp Gly Leu Leu His Tyr Gly
195 200 205

Tyr Arg Gln Gly His Glu Thr Glu Ser Asn Gly Gly His Gly Gly Thr
210 215 220

Gly Leu Ser Arg Ser Glu Ala Asn Pro Glu Asp Ala Asp Ser Tyr Ser
225 230 235 240

Leu Leu Gly Lys Leu Gly Trp Asn Tyr Ala Glu Gly Ser Arg Phe Gly
245 250 255

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Leu Val Phe Glu Lys Tyr Lys Ser Asp Val Asp Thr Asp Gln Lys Ser
260 265 270

Ala Tyr Gly Gly Pro Tyr Asp Lys Gly Lys Pro Ala Ile Pro Pro Ser
275 280 285

Met Leu Pro Gly Gly Met Tyr Gln Trp Arg Lys Gly Asn Asp Thr Leu
290 295 300

Thr Arg Glu Arg Tyr Gly Leu Glu His His Phe Leu Leu Asp Ser Gln
305 310 315 320

Val Ala Asp Arg Ile Gln Trp Ser Leu Asn Tyr Gln Leu Ala Lys Thr
325 330 335

Asp Gln Ala Thr Arg Glu Phe Tyr Tyr Pro Ile Thr Arg Lys Val Leu
340 345 350

Arg Thr Arg Asp Thr Thr Tyr Lys Glu Arg Leu Trp Val Phe Asp Ser
355 360 365

Gln Leu Asp Lys Ser Phe Ala Ile Gly Glu Thr Glu His Leu Leu Ser
370 375 380

Tyr Gly Ile Asn Leu Lys His Gln Lys Val Thr Gly Met Arg Ser Gly
385 390 395 400

Thr Gly Thr Asn Leu Asp Thr Gly Ala Asp Ser Pro Arg Asp Ala Leu
405 410 415

Glu Arg Ser Ser Asp Phe Pro Asp Pro Thr Val Lys Thr Tyr Ala Leu
420 425 430

Phe Ala Gln Asp Ser Ile Ser Trp Asn Asp Trp Thr Phe Thr Pro Gly
435 440 445

eolf-seql

Leu Arg Tyr Asp Tyr Thr Arg Met Glu Pro His Ile Thr Asp Glu Phe
450 455 460

Leu Arg Thr Met Lys Gln Ser Gln Asn Thr Ala Val Asp Glu Ser Asp
465 470 475 480

Lys Lys Trp His Arg Val Ser Pro Lys Phe Gly Val Thr Tyr Asp Phe
485 490 495

Ala Gln His Tyr Thr Trp Tyr Gly Gln Tyr Ala Gln Gly Phe Arg Thr
500 505 510

Pro Thr Ala Lys Ala Leu Tyr Gly Arg Phe Glu Asn Leu Gln Ala Gly
515 520 525

Tyr His Ile Glu Pro Asn Pro Asn Leu Lys Pro Glu Lys Ser Gln Ser
530 535 540

Phe Glu Thr Gly Leu Arg Gly Lys Phe Asp Glu Gly Ser Phe Gly Val
545 550 555 560

Ala Val Phe Tyr Asn Lys Tyr Arg Asp Phe Ile Asp Glu Asp Ala Leu
565 570 575

Asn Thr Asp Ser Thr Gly Gly Asn Gly Gln Thr Phe Gln Ser Asn Asn
580 585 590

Ile Glu Arg Ala Val Ile Lys Gly Val Glu Leu Lys Gly Arg Leu Glu
595 600 605

Leu Gly Ala Phe Gly Ala Pro Gln Gly Leu Tyr Thr Gln Gly Ser Val
610 615 620

Ala Tyr Ala Tyr Gly Arg Asn Lys Asp Asn Gly Glu Pro Ile Asn Ser
625 630 635 640

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Val Asn Pro Leu Thr Gly Val Phe Gly Leu Gly Tyr Asp Glu Ala Asp
645 650 655

Gly Asn Tyr Gly Gly Leu Leu Ser Trp Thr Leu Val Lys Arg Lys Asp
660 665 670

Arg Val Asp Asp Ser Thr Phe His Thr Pro Asp Gly Thr Ala Ser Gln
675 680 685

Phe Lys Thr Pro Gly Phe Gly Val Leu Asp Leu Ser Ala Tyr Tyr Arg
690 695 700

Leu Ser Lys Asp Leu Thr Leu Asn Ala Gly Leu Tyr Asn Leu Thr Asp
705 710 715 720

Lys Lys Tyr Trp Leu Trp Asp Asp Val Arg Gly Tyr Asp Ser Val Gly
725 730 735

Glu Ala Ser Ala Leu Ala Pro Ala Asn Ile Asp Arg Leu Ser Gln Pro
740 745 750

Gly Arg Asn Phe Ala Val Asn Leu Val Trp Asp Ile
755 760

<210> 16

<211> 1088

<212> PRT

<213> Pseudomonas aeruginosa

<400> 16

Met Pro Lys Gly Leu Lys Arg Ala Val Ser Ala Leu Leu Ile Thr Phe
1 5 10 15

Leu Val Tyr Cys Leu Leu Gly Phe Leu Leu Ile Pro Gly Ile Gly Leu
20 25 30

Arg Val Ala Asn Gln Gln Leu Ala Gln Tyr Ala Thr Val Pro Ala Arg

eolf-seql

35

40

45

Leu Glu Arg Ile Glu Phe Asn Pro Phe Ser Leu Glu Leu Thr Leu Trp
 50 55 60

Gly Leu Arg Leu Gly Glu Glu Lys Asn Pro Gln Leu Ala Phe Arg Arg
 65 70 75 80

Leu Tyr Ala Asn Leu Gln Leu Asp Ser Leu Trp Lys Arg Gln Leu His
 85 90 95

Leu Ala Asp Val Glu Leu Glu Gly Pro His Thr Glu Leu Leu Phe Gly
 100 105 110

Glu Lys Gly Gln Leu Asn Leu Ala Ser Leu Phe Arg Ile Pro Pro Ser
 115 120 125

Glu Ser Pro Glu Pro Glu Gln Pro Ser Asp Pro Phe Pro Leu Arg Ile
 130 135 140

Asp Arg Ile Gln Leu Ala Glu Gly Ser Leu His Phe Gln Asp Leu Arg
 145 150 155 160

Pro Ser Glu Pro Val Asp Phe Ser Phe Asp Pro Leu Gly Phe Glu Leu
 165 170 175

His Asn Leu Ser Thr Leu Pro Asp Asp Gly Ala Lys Met Thr Leu Val
 180 185 190

Ala Thr Gly Pro Asn Gly Gly Arg Leu Asp Trp Glu Gly Asp Leu Thr
 195 200 205

Leu Val Pro Ile Thr Ser Arg Gly His Leu Ser Val Lys Asp Ile Gln
 210 215 220

Leu Lys Ala Trp Trp Pro Tyr Val Arg Asp Asn Ala Pro Leu Val Leu

eolf-seql																		
225						230						235						240
Glu	Asn	Gly	Val	Val	Ser	Leu	Ser	Ser	Asp	Tyr	Arg	Leu	Asp	Leu	Ser			
				245					250					255				
Lys	Asp	Thr	Gln	Leu	Leu	Leu	Asp	Lys	Ala	Ala	Leu	Lys	Leu	Ala	Asp			
			260					265					270					
Phe	Ser	Ile	Asn	Ser	Pro	Gln	Gly	Lys	Pro	Leu	Ala	Lys	Leu	Ala	Ser			
		275					280					285						
Leu	Asp	Val	Ala	Ala	Thr	Thr	Leu	Asp	Leu	Ala	Lys	Gln	Glu	Val	Val			
	290					295					300							
Leu	Gly	Glu	Val	Arg	Ser	Gln	Gly	Leu	Glu	Ala	Trp	Ala	Ala	Arg	Glu			
305					310					315					320			
Lys	Asp	Gly	Gln	Leu	Asp	Trp	Gln	Lys	Leu	Phe	Ala	Asp	Phe	Thr	Pro			
				325					330					335				
Pro	Pro	Arg	Lys	Ala	Pro	Ala	Pro	Lys	Pro	Ala	Glu	Asn	Thr	Asp	Pro			
			340					345					350					
Ala	Ala	Ala	Pro	Thr	Asp	Ala	Ala	Lys	Thr	Thr	Ser	Glu	Pro	Ala	Thr			
		355					360					365						
Asp	Gly	Ala	Ala	Lys	Ala	Ala	Ala	Ile	Ala	Ser	Gly	Glu	Ala	Ser	Lys			
	370				375						380							
Asp	Arg	Pro	Ala	Glu	Lys	Asp	Ala	Ser	Val	Ala	Glu	Thr	Glu	Arg	Ala			
385					390					395					400			
Thr	Asp	Asp	Lys	Glu	Ser	Ala	Lys	Ala	Ala	Glu	Gly	Ala	Ala	Asp	Lys			
				405					410					415				
Val	Ala	Lys	Gln	Glu	Thr	Ser	Lys	Ala	Pro	Lys	Thr	Gly	Lys	Ala	Thr			

eolf-seq1

420

425

430

Gly Gln Glu Thr Ala Lys Thr Ala Glu Ile Asp Lys Ala Ala Ser Asp
 435 440 445

Ser Pro Gln Gln Leu Ala Asp Thr Ala Lys Thr Pro Pro Pro Glu Ser
 450 455 460

Thr Lys Ala Ser Ala Glu Thr Pro Ala Lys Pro Trp Asn Ile Val Leu
 465 470 475 480

Arg Asp Ala Gln Leu Arg Gly Tyr Lys Ala His Leu Val Asp Arg Gln
 485 490 495

Pro Ala Thr Glu Val Pro Leu Glu Val Gly Pro Leu Asp Leu Asp Leu
 500 505 510

Gln Asn Val Asp Ser Leu Gly Lys Thr Pro Phe Asp Leu Lys Leu Lys
 515 520 525

Thr Gly Leu Gly Asn Arg Gly Gln Val Gln Ala Ser Gly Gln Val Val
 530 535 540

Leu Asp Pro Val Ser Ala Arg Leu Lys Val Ser Thr Arg Asp Ile Asp
 545 550 555 560

Leu Arg Val Ala Gln Ala Tyr Ile Ser Pro Phe Ile Arg Leu Glu Leu
 565 570 575

Arg Ser Gly Phe Leu Gly Ser Glu Leu Ala Val Asp Leu Lys Ser Val
 580 585 590

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

His Thr Leu Asp Thr Ile Lys Asp Arg Asp Phe Val Lys Trp Thr Lys

eolf-seql

610

615

620

Leu Thr Leu Asn Gly Leu Ala Tyr Arg His Glu Asp Ser Leu Ser Ile
625 630 635 640

Gln Ser Val Ser Phe Glu Glu Pro Tyr Ala Arg Phe Ile Ile Asn Glu
645 650 655

Asp Arg Ser Thr Asn Val Ser Glu Leu Ile Ile Pro Gln Pro Ala Ser
660 665 670

Ser Ser Gly Lys Thr Ala Ala Glu Ser Lys Asn Ala Pro Ala Ser Lys
675 680 685

Pro Leu Gly Ile His Ile Gly Gly Val Arg Ile Asn Asn Gly Ser Ala
690 695 700

Asn Phe Ala Asp Leu Thr Leu Met Pro Pro Phe Gly Thr Ala Ile Gln
705 710 715 720

Gln Leu Ser Gly Glu Val Gly Thr Leu Asp Thr Arg Asn Ser Gln Pro
725 730 735

Ala Lys Val Asp Ile Lys Gly Lys Val Asp Lys Tyr Ala Pro Val Thr
740 745 750

Ile Ala Gly Glu Leu Asp Pro Phe Asp Pro Leu Lys Lys Leu Asp Ile
755 760 765

Thr Thr Ser Phe Lys Arg Val Glu Leu Thr Thr Leu Thr Pro Tyr Ser
770 775 780

Gly Lys Phe Ala Gly Tyr Arg Ile Arg Lys Gly Arg Leu Asn Leu Asp
785 790 795 800

Leu His Tyr Gln Ile Glu Arg Ser Gln Leu Lys Ala Glu Asn Lys Val

eolf-seql

805

810

815

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

Val Asp Leu Pro Val Lys Leu Ala Val Ala Leu Leu Lys Asp Thr Lys
 835 840 845

Gly Asn Ile Asp Ile Gln Leu Pro Val Ala Gly Asp Leu Asn Asn Pro
 850 855 860

Glu Phe Ser Val Met Pro Ile Val Trp Gln Thr Leu Arg Asn Leu Val
 865 870 875 880

Leu Arg Ala Val Gln Ala Pro Phe Lys Phe Ile Ala Gly Leu Ala Ala
 885 890 895

Gly Gly Asn Glu Asp Leu Gly Thr Val Pro Phe Ala Ala Gly Ser Asp
 900 905 910

Glu Leu Thr Pro Glu Ala Gln Ala Asn Leu Asp Lys Leu Ala Asp Ala
 915 920 925

Leu Lys Glu Arg Pro Ala Leu Arg Leu Glu Val Glu Gly Val Ala Ser
 930 935 940

Ala Ala Ala Asp Gly Pro Ser Ile Gly Ala Lys Arg Leu Glu Leu Glu
 945 950 955 960

Tyr Gln Asn Thr Tyr Tyr Arg Met Leu Gln Arg Arg Gly Asp Lys Val
 965 970 975

Pro Ser Asp Ala Lys Gln Leu Glu Val Pro Glu Asn Met Gln Ala Pro
 980 985 990

Leu Leu Glu Gly Ile Tyr Arg Thr Arg Leu Lys Gln Gln Pro Pro Ala

eolf-seql

995

1000

1005

Glu Trp Lys Glu Leu Asp Ser Asp Glu Arg Thr Ala Lys Met Arg
1010 1015 1020

Glu Ala Val Ile Ala Ser Trp Ala Lys Ser Gln Val Leu Leu Arg
1025 1030 1035

Gln Ile Gly Gln Ala Arg Ala Thr Arg Ile Lys Asp Tyr Leu Val
1040 1045 1050

Glu Lys Gly Gln Leu Pro Asp Asp Arg Ile Tyr Leu Ile Asp Val
1055 1060 1065

Ser Phe Ala Glu Gly Glu Asp Lys Gly Asn Val Asp Thr Gln Leu
1070 1075 1080

His Leu Asp Ser Glu
1085

<210> 17

<211> 168

<212> PRT

<213> Pseudomonas aeruginosa

<400> 17

Met Arg Lys Phe Thr Gln Phe Val Leu Ile Thr Ala Ala Ile Met Ala
1 5 10 15

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

Met Ala Leu Leu Glu Ser Asp Ala Ala Lys Gln Tyr Ala Val Asp Ala
35 40 45

Glu Lys Lys Phe Gly Pro Gln Leu Asn Lys Leu Lys Asn Leu Glu Arg
50 55 60

eolf-seql

Asp Ala Lys Ala Leu Gln Asp Lys Leu Val Ser Asn Gly Ser Lys Met
65 70 75 80

Ser Gln Gly Asp Arg Glu Lys Ala Glu Leu Asp Phe Lys Gln Lys Ala
85 90 95

Arg Asp Phe Gln Phe Gln Ser Lys Glu Leu Asn Glu Ser Lys Ala Ala
100 105 110

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

Val Glu Glu Thr Ile Lys Lys Gly Gly Tyr Asp Met Val Ile Glu Arg
130 135 140

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

Ile Glu Arg Met Asn Gln Leu Arg
165

<210> 18

<211> 206

<212> PRT

<213> Pseudomonas aeruginosa

<400> 18

Met Pro Thr Arg Val Leu Arg Gly Leu Val Ala Ala Leu Pro Leu Phe
1 5 10 15

Leu Ala Ala Cys Ser Asp Ser Ala Pro Ser Ser Glu Glu Ile Ala Arg
20 25 30

Leu Leu Ala Glu Arg Gly Phe Asp Lys Pro Ala Cys Ala Ser Ser Thr
35 40 45

Leu Phe Lys Thr Phe Pro Val Thr Leu Ser Asp Ser Phe Ser Gly Pro

eolf-seql

50

55

60

Gly Pro Ala Lys Gly Asn Ala Ala Val Tyr Asp Ala Leu Val Gly Val
65 70 75 80

Gly Leu Leu Arg Arg Asp Gly Asp Ser Tyr Asp Leu Thr Pro Ala Gly
85 90 95

Arg Glu Asp Tyr Lys Pro Glu Ser Lys Ala Phe Cys Tyr Ser Ser Gly
100 105 110

Phe Asp Val Ser Val Arg Ser Val Asp Pro Ala Lys Pro Asp Asp Tyr
115 120 125

Gly Pro Ala Val Glu Lys Gly Trp Leu Val Thr Val Glu Val Lys Pro
130 135 140

Arg Glu Val Lys Asp Trp Ala Lys Asn Pro Glu Val Leu Lys Gln Ala
145 150 155 160

Ser Leu Thr Thr Leu Gln Gln Ile Thr Gln Pro Gln Val Gly Gln Val
165 170 175

Ser Leu Val Lys Pro Arg Gly Glu Glu Gly Tyr Lys Leu Val Asn Thr
180 185 190

Arg Phe Ser Pro Arg Gln Gly Phe His Phe Asn Gln Ala Trp
195 200 205

<210> 19

<211> 452

<212> PRT

<213> Pseudomonas aeruginosa

<400> 19

Met Gln Asn Leu Arg Arg Ala Val Phe Ala Gly Leu Val Ala Gly Thr
1 5 10 15

eolf-seql

Leu Ser Glu Gly Ala Ala Ala Thr Ala Gly Asp Gly Gly Phe Val Glu
20 25 30

Asp Ser Glu Leu Gln Phe Leu Ala Arg Thr Tyr Tyr Phe Asn Arg Asp
35 40 45

Tyr Arg Asp Ser Pro Asn Asn Ala Gly Arg Asn Arg Phe Lys Pro Arg
50 55 60

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

Gln Phe Ala Ser Gly Tyr Thr Pro Gly Ser Leu Gly Phe Gly Leu Asp
85 90 95

Ala His Ala Met Leu Gly Leu Gln Leu Asp Ser Gly Gly Gly Arg Thr
100 105 110

Gly Thr Gly Asn Leu Pro Val Gly Ala Asp Gly His Pro Asp His Arg
115 120 125

Tyr Gly Lys Val Gly Gly Ala Leu Arg Leu Arg His Gly Glu Thr Arg
130 135 140

Leu Lys Tyr Gly Gln Thr Thr Thr Ser Ala Pro Val Phe Ala Ala Ser
145 150 155 160

Ser Asn Arg Thr Leu Ala Gly Met Ala Tyr Gly Leu Leu Leu Glu Asp
165 170 175

Arg Ser Phe Asp Gly Leu Leu Leu Glu Gly Gly Arg Phe Thr Ala Ala
180 185 190

Ser Gly Pro Gly Glu Ser Lys Val Arg Gly Asp Ile Ser Thr Val Tyr
195 200 205

eolf-seql

Gly Arg Leu Gly Ala Tyr Pro Val Arg Leu Asp Ala Val Gly Phe Leu
210 215 220

Gly Gly Gln Trp Gln Ala Thr Glu Arg Leu Gln Leu Ser Leu Tyr Ala
225 230 235 240

Ser Arg Phe Asp Asp Ile Trp Gln Gln Ala Tyr Phe Gly Ala Ser His
245 250 255

Arg Gln Pro Leu Gly Gly Glu Arg Ala Leu Arg Val Asp Leu Asp Ala
260 265 270

Tyr Arg Thr Arg Asp Ser Gly Gln Ser Arg Phe Gly Arg Ile Asp Thr
275 280 285

Leu Thr Ser Ser Leu Ala Leu Gly Tyr Glu His Gly Pro Gln Arg Ile
290 295 300

Thr Leu Ala Tyr Gln Arg Val His Gly Glu Gln Pro Phe Asp Tyr Met
305 310 315 320

Ala Phe Gly Asp Gly Arg Ser Ser Ala Ser Met Val Leu Ala Asn Ser
325 330 335

Val Gly Tyr Ser Asp Phe Asn Gly Pro Gly Glu Arg Ser Trp Gln Leu
340 345 350

Arg Tyr Asp Leu Asp Leu Gly Ala Leu Gly Leu Pro Gly Leu Ser Leu
355 360 365

His Ala Leu His Ala Arg Gly Arg Ala Gly Ala Ser Ala Ser Ser Ala
370 375 380

Ala Glu Ser Ile Tyr Ala Gly Leu Tyr Gly Arg Asp Gly Arg His Arg
385 390 395 400

eolf-seql

Glu Asn Asp Leu Gly Phe Ala Tyr Arg Val Lys Ala Gly Pro Leu Ala
405 410 415

Gly Leu Ala Leu Arg Ala Ser Gln Ala Trp His Arg Gly Asn Ala Ser
420 425 430

Tyr Leu Asp Gly Asp Ile Asp Glu Thr Arg Leu Val Val Asp Tyr Ser
435 440 445

Arg Ser Ile Trp
450

<210> 20

<211> 256

<212> PRT

<213> Pseudomonas aeruginosa

<400> 20

Met Leu Arg Pro Ala Leu Pro Ala Val Leu Cys Leu Tyr Cys Leu Leu
1 5 10 15

Leu Ala Leu Pro Ala Arg Ala Ala Leu Asp Asp Gln Gln Arg Ala Leu
20 25 30

Gln Gln Leu Gln Val Gln Ala Cys Arg Ala Val Gly Ser Leu Leu Leu
35 40 45

Leu Arg Gly Glu Gly Phe Gln Glu Gln His Ala Ala Gln Leu Glu Lys
50 55 60

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

Leu Leu Arg Gln Gly Glu Lys Thr Leu Val Ala Arg Ile Arg Glu Gly
85 90 95

Ala Ala Tyr Gly Pro Arg Glu Glu Asp Leu Pro Trp Arg Tyr Pro Gln

eolf-seql

100

105

110

Gln Leu Ser Arg Ala Leu Arg Asp Phe Leu Asn Leu Val Glu Arg Gln
115 120 125

Val Pro Pro Pro Pro Pro Gly Gln Pro Leu Pro Leu Trp Gln Leu Pro
130 135 140

Val Arg Val Glu Tyr Leu Ser Leu Gln Tyr Leu Ala Arg Ala Tyr Leu
145 150 155 160

Gly Gly Leu Glu Thr Ala Arg Glu Gln Pro Arg Asp Tyr Leu Gly Gln
165 170 175

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

Val Ala Gln Ser Ala Asn Pro Ala Gly Leu Lys Lys Leu Glu Asn Arg
195 200 205

Trp Glu Tyr Leu Ser Gln Ala Leu Arg Asp Leu Asn Ser Lys Ser Ser
210 215 220

Ala Leu Val Ser Ala Ser Gly Arg Pro Trp Ala Pro Ile Ile Val Asp
225 230 235 240

Arg His Ala Arg Ala Leu Ser Glu Ser Leu Met Arg Leu Ser Ala Glu
245 250 255

<210> 21

<211> 202

<212> PRT

<213> Pseudomonas aeruginosa

<400> 21

Met Pro Arg Phe Leu Arg Asn Ala Leu Leu Pro Val Leu Ala Leu Leu
1 5 10 15

eolf-seql

Leu Ser Gly Cys Gly Tyr Asn Ala Met Gln Ala Gly Asp Glu Gln Val
20 25 30

Lys Ala Ala Trp Ser Glu Val Leu Asn Gln Tyr Gln Arg Arg Ala Asp
35 40 45

Leu Val Pro Asn Leu Val Ser Thr Val Lys Gly Tyr Ala Ser His Glu
50 55 60

Ala Ser Val Leu Thr Gln Val Thr Glu Ala Arg Ala Lys Val Gly Ser
65 70 75 80

Val Gln Leu Asn Ala Asp Gln Leu Asp Asp Glu Gln Ala Val Gln Arg
85 90 95

Phe Gln Lys Ala Gln Gly Glu Leu Ser Ser Ala Leu Ser Arg Leu Leu
100 105 110

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

Asp Leu Leu Thr Gln Leu Glu Gly Thr Glu Asn Arg Ile Ala Val Ala
130 135 140

Arg Gly Arg Tyr Val Lys Ser Val Gln Glu Tyr Asn Val Leu Leu Arg
145 150 155 160

Gln Phe Pro Gly Val Ile Thr Ala Lys Leu Phe Gly Tyr Lys Pro Lys
165 170 175

Ala Asn Phe Ser Val Glu Asn Glu Ala Ala Ile Ser Thr Ala Pro Lys
180 185 190

Val Asp Phe Gly Asn Pro Gln Pro Ala Gln
195 200

eolf-seql

<210> 22

<211> 151

<212> PRT

<213> Pseudomonas aeruginosa

<400> 22

Met Trp Arg Thr Phe Leu Arg Val Pro Leu Leu Leu Leu Ala Ser
1 5 10 15

Leu Gly Gly Cys Ala Val Tyr Asp Tyr Asp Tyr Asp Asp Gly Asp Trp
20 25 30

Arg His Tyr Arg Gly Gln Pro Tyr Gly Tyr Ala Tyr Glu Val Pro Arg
35 40 45

Tyr Arg Val Tyr Asp Asp Gly Trp Arg Ser Glu Arg Arg Tyr Tyr Ser
50 55 60

Thr Arg Tyr Tyr Asp Gln Arg Tyr Tyr Pro Ala Pro Arg Arg Tyr Asp
65 70 75 80

Gly His Arg Asp Tyr Arg Arg Glu Gln Tyr Arg Tyr Gln Gln Arg Tyr
85 90 95

His Glu Ser Arg Pro Ala His Arg Gly Glu Arg His Pro Gly Asn Trp
100 105 110

Gln Arg Gly Gly Gln Pro Gln Trp Arg Gly His Ser Pro Gln Arg Trp
115 120 125

Gln Gln His Gly Arg Gln Asp Arg Pro Gly His Gln Gly Gln Gln Gly
130 135 140

Gly Thr Pro Arg Trp Arg Asn
145 150

<210> 23

eolf-seql

<211> 683

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 23

Met Ser Asp Leu Leu Ser Ile Gly Leu Ser Gly Leu Gly Thr Ser Gln
1 5 10 15

Thr Trp Leu Thr Val Thr Gly His Asn Ile Thr Asn Val Lys Thr Pro
20 25 30

Gly Tyr Ser Arg Gln Asp Ala Ile Gln Gln Thr Arg Ile Pro Gln Phe
35 40 45

Ser Gly Ala Gly Tyr Met Gly Ser Gly Ser Gln Ile Val Asp Val Arg
50 55 60

Arg Leu Ala Ser Asp Phe Leu Thr Gly Gln Leu Arg Asn Ala Thr Ser
65 70 75 80

Gln Asn Ser Glu Leu Asn Ala Phe Leu Gly Gln Ile Asp Gln Leu Asn
85 90 95

Ser Leu Leu Ala Asp Asn Thr Thr Gly Val Ser Pro Ala Met Gln Arg
100 105 110

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

Ala Arg Glu Ala Val Leu Ala Gln Ala Gln Gly Leu Ser Lys Thr Phe
130 135 140

Asn Thr Leu Tyr Asp Gln Leu Asp Lys Gln Asn Ser Leu Ile Asn Gln
145 150 155 160

Gln Leu Gly Ala Leu Thr Ser Gln Val Asn Asn Leu Ser Gln Ser Val
165 170 175

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Ala Glu Tyr Asn Asp Ala Ile Ala Lys Ala Lys Ser Ala Gly Ala Val
180 185 190

Pro Asn Asp Leu Leu Asp Ala Arg Asp Glu Ala Val Arg Lys Leu Ser
195 200 205

Glu Met Val Gly Val Thr Ala Val Thr Gln Asp Asp Asn Ser Val Ser
210 215 220

Leu Phe Ile Gly Ser Gly Gln Pro Leu Val Val Gly Asn Thr Val Ser
225 230 235 240

Thr Leu Ser Val Val Pro Gly Leu Asp Asp Pro Thr Arg Tyr Gln Val
245 250 255

Gln Leu Thr Leu Gly Asp Ser Thr Gln Asn Val Thr Arg Leu Val Ser
260 265 270

Gly Gly Gln Met Gly Gly Leu Leu Ala Tyr Arg Asp Thr Val Leu Asp
275 280 285

Ser Ser Tyr Asn Lys Leu Gly Gln Leu Ala Leu Thr Phe Ala Asp Thr
290 295 300

Val Asn Lys Gln Leu Gly Gln Gly Leu Asp Leu Ala Gly Lys Ala Gly
305 310 315 320

Ala Asn Leu Phe Gly Asp Ile Asn Asp Pro Asp Ile Thr Ala Leu Arg
325 330 335

Val Leu Ala Lys Asn Gly Asn Thr Gly Asn Val His Ala Asn Leu Asn
340 345 350

Ile Thr Asp Thr Ser Lys Leu Asn Ser Ser Asp Phe Arg Leu Asp Phe
355 360 365

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Asp Gly Thr Asn Phe Thr Ala Arg Arg Leu Gly Asp Asp Ala Ser Met
370 375 380

Gln Val Thr Val Ser Gly Thr Gly Pro Tyr Thr Leu Ser Phe Lys Asp
385 390 395 400

Ala Asn Gly Val Asp Gln Gly Phe Ser Val Thr Leu Asp Gln Leu Pro
405 410 415

Ala Ala Gly Asp Arg Phe Thr Leu Gln Pro Thr Arg Arg Gly Ala Ser
420 425 430

Asp Ile Glu Thr Thr Leu Lys Asn Ala Ser Gln Leu Ala Phe Ala Gly
435 440 445

Ser Ala Arg Ala Glu Ala Thr Thr Asn Asn Arg Gly Ser Gly Ala Ile
450 455 460

Gly Gln Pro Asn Leu Val Asp Gly Pro Ser Pro Ile Asp Pro Ala Val
465 470 475 480

Leu Gln Asn Ala Phe Gly Ala Asn Gly Leu Pro Leu Ser Ala Thr Val
485 490 495

Ser Ala Asp Gly Lys Thr Tyr Thr Met Thr Ser Pro Leu Pro Ala Gly
500 505 510

Trp Ser Tyr Val Asp Lys Asp Gly Asn Ala Leu Pro Gly Ser Pro Thr
515 520 525

Leu Asn Ser Gly Thr Ser Asn Ser Val Arg Met Ala Tyr Thr Asp Pro
530 535 540

Gly Ser Gly Gln Thr Tyr Thr Tyr Glu Phe Asn Leu Ser Asn Val Pro
545 550 555 560

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Gln Thr Gly Asp Ser Phe Thr Leu Ser Phe Asn Lys Asp Gly Ile Ala
565 570 575

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

Val Gly Gly Thr Asp Ser Thr Gly Ser Thr Tyr Asn Asp Ala Tyr Gly
595 600 605

Gly Leu Val Glu Arg Val Gly Thr Leu Thr Ala Gln Ala Arg Ala Ser
610 615 620

Ala Asp Ala Ser Gln Thr Val Leu Lys Gln Ala Gln Asp Ser Arg Asp
625 630 635 640

Ser Leu Ser Gly Val Ser Leu Asp Glu Glu Ala Ala Asn Leu Ile Gln
645 650 655

Phe Gln Gln Tyr Tyr Ser Ala Ser Ala Gln Val Ile Gln Val Ala Arg
660 665 670

Ser Leu Phe Asp Thr Leu Ile Gly Ala Phe Arg
675 680

<210> 24

<211> 237

<212> PRT

<213> Pseudomonas aeruginosa

<400> 24

Met Leu Lys His Leu Leu Val Leu Thr Cys Ala Leu Leu Ala Ser Ser
1 5 10 15

Ser Ala Leu Ala Gln Val Met Ala Arg Asp Leu Gly Asp Phe Glu Leu
20 25 30

Lys Leu Ala Thr Ser Pro Thr Arg Ser Met Ala Gln Gly Leu Val Thr

eolf-seql

35

40

45

Pro Gly Ser Ser Gly Ser Phe His Gly Gly Leu Asp Leu Ser His Glu
50 55 60

Ser Gly Trp Tyr Ile Gly Asn Trp Thr Ser Asn Leu Asp Pro Gly Lys
65 70 75 80

Pro Thr Glu Ile Asp Ser Tyr Ala Gly Phe Lys Arg Pro Leu Asn Asn
85 90 95

Arg Leu Gly Tyr Glu Met Gly Leu Ile Arg Tyr Ser Arg Pro Glu Gln
100 105 110

Pro Ala Asn Asp Ala Ala Glu Leu Tyr Gly Gly Leu Ser Ile Phe Gly
115 120 125

Ser Arg Leu Gly Ala Ala Leu Ser Ser Asp Pro Gly Arg Asn Asp Thr
130 135 140

Thr Leu Phe Ala Asp Leu Gly Val Asn Pro Pro Phe Gly Phe Asp Val
145 150 155 160

Thr Leu Lys Tyr Gly Asn His Arg Leu Asp Asn Pro Ala Ser Leu Ser
165 170 175

Gly Gly Gly Tyr Val Ser Val Phe Asn Asp Trp Ser Val Asn Leu Ser
180 185 190

Arg Pro Trp Leu Gly Ile Asp Leu Asn Leu Ser Tyr Ser Gly Thr Ser
195 200 205

Leu Thr Gly Ser Asp Cys Ser Ala Tyr Ser Gly His Asn Ser Tyr Cys
210 215 220

Asp Thr Thr Phe Met Leu Lys Ala Ser Arg Pro Phe Phe

eolf-seql

225

230

235

<210> 25

<211> 170

<212> PRT

<213> Pseudomonas aeruginosa

<400> 25

Met Leu Ser Ile Lys Lys Asn Leu Gly Leu Leu Ala Met Thr Ala Ala
1 5 10 15

Leu Ala Ala Cys Ala Ser Asn Pro Asn Asp Leu Pro Asp Phe Pro Glu
20 25 30

His Glu Tyr Ala Ala Thr Gln Gln Val Gly Glu Gly Val Ile Asn Gly
35 40 45

Asp Leu Tyr Leu Thr Ser Ala Ser Gly Ala Ile Gln Lys Gly Thr Asn
50 55 60

Thr Lys Val Ala Leu Glu Pro Ala Thr Ser Tyr Met Lys Ala Tyr Tyr
65 70 75 80

Ala Lys Phe Gly Asn Leu Asp Ala Ala Lys Arg Asp Pro Asp Val Gln
85 90 95

Pro Pro Val Leu Asp Pro Arg Arg Ala Thr Tyr Val Arg Glu Ala Thr
100 105 110

Thr Asp Gln Asn Gly Arg Phe Asp Phe Asp His Ile Pro Asn Gly Thr
115 120 125

Tyr Tyr Ile Ser Ser Glu Leu Thr Trp Ser Ala Gln Ser Asp Gly Lys
130 135 140

Thr Ile Thr Glu Gly Gly Thr Val Thr Lys Leu Val Thr Val Ser Gly
145 150 155 160

eolf-seql

Ser Gln Pro Gln Lys Val Leu Leu Thr Arg
165 170

<210> 26

<211> 350

<212> PRT

<213> Pseudomonas aeruginosa

<400> 26

Met Lys Leu Lys Asn Thr Leu Gly Val Val Ile Gly Ser Leu Val Ala
1 5 10 15

Ala Ser Ala Met Asn Ala Phe Ala Gln Gly Gln Asn Ser Val Glu Ile
20 25 30

Glu Ala Phe Gly Lys Arg Tyr Phe Thr Asp Ser Val Arg Asn Met Lys
35 40 45

Asn Ala Asp Leu Tyr Gly Gly Ser Ile Gly Tyr Phe Leu Thr Asp Asp
50 55 60

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

Tyr Glu Thr Gly Asn Lys Lys Val His Gly Asn Leu Thr Ser Leu Asp
85 90 95

Ala Ile Tyr His Phe Gly Thr Pro Gly Val Gly Leu Arg Pro Tyr Val
100 105 110

Ser Ala Gly Leu Ala His Gln Asn Ile Thr Asn Ile Asn Ser Asp Ser
115 120 125

Gln Gly Arg Gln Gln Met Thr Met Ala Asn Ile Gly Ala Gly Leu Lys
130 135 140

Tyr Tyr Phe Thr Glu Asn Phe Phe Ala Lys Ala Ser Leu Asp Gly Gln

eolf-seql																		
145						150						155						160
Tyr	Gly	Leu	Glu	Lys	Arg	Asp	Asn	Gly	His	Gln	Gly	Glu	Trp	Met	Ala			
				165					170					175				
Gly	Leu	Gly	Val	Gly	Phe	Asn	Phe	Gly	Gly	Ser	Lys	Ala	Ala	Pro	Ala			
			180					185					190					
Pro	Glu	Pro	Val	Ala	Asp	Val	Cys	Ser	Asp	Ser	Asp	Asn	Asp	Gly	Val			
		195					200					205						
Cys	Asp	Asn	Val	Asp	Lys	Cys	Pro	Asp	Thr	Pro	Ala	Asn	Val	Thr	Val			
	210					215					220							
Asp	Ala	Asn	Gly	Cys	Pro	Ala	Val	Ala	Glu	Val	Val	Arg	Val	Gln	Leu			
225					230				235						240			
Asp	Val	Lys	Phe	Asp	Phe	Asp	Lys	Ser	Lys	Val	Lys	Glu	Asn	Ser	Tyr			
			245						250					255				
Ala	Asp	Ile	Lys	Asn	Leu	Ala	Asp	Phe	Met	Lys	Gln	Tyr	Pro	Ser	Thr			
		260						265					270					
Ser	Thr	Thr	Val	Glu	Gly	His	Thr	Asp	Ser	Val	Gly	Thr	Asp	Ala	Tyr			
		275					280					285						
Asn	Gln	Lys	Leu	Ser	Glu	Arg	Arg	Ala	Asn	Ala	Val	Arg	Asp	Val	Leu			
	290					295					300							
Val	Asn	Glu	Tyr	Gly	Val	Glu	Gly	Gly	Arg	Val	Asn	Ala	Val	Gly	Tyr			
305				310					315					320				
Gly	Glu	Ser	Arg	Pro	Val	Ala	Asp	Asn	Ala	Thr	Ala	Glu	Gly	Arg	Ala			
				325				330						335				
Ile	Asn	Arg	Arg	Val	Glu	Ala	Glu	Val	Glu	Ala	Glu	Ala	Lys					

eolf-seql

340

345

350

<210> 27

<211> 344

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 27

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

Cys Leu Ser Gly Cys Val Ser Glu Leu Asp Ser Gly Ala Tyr Gly Ser
20 25 30

Met Asp Asp Pro Arg Asn Ala Gln Met Leu Asp Leu Val Asp Gln Ala
35 40 45

Leu Lys Gly Asn Met Ala Val Val Leu Val Ala Asp Val Met Pro His
50 55 60

Lys Ser Leu Ser Asp Ala Leu Thr Met Thr Gln Trp Thr Pro Thr Ala
65 70 75 80

Ile Trp Glu Tyr Glu Lys Asp Pro Lys Val Thr Phe Gly Arg Lys Phe
85 90 95

Gln Thr Asn Ala Leu Gln Arg Lys Pro Asp Glu Thr Tyr Leu Phe Lys
100 105 110

Ala Phe Glu Val His Ile Leu Pro Pro Gly Lys Tyr Leu Leu Thr Gly
115 120 125

Gly Asp Asp Tyr Gln Ile His Gly Leu Leu Asp Gln Val Gly Ala Arg
130 135 140

Ser Gly Pro Pro Gly Ser Gly His Gly Ala Asn Gly Thr Ala Tyr Leu
145 150 155 160

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Ser Pro Glu Leu Tyr Arg Glu Tyr Tyr Arg Glu Glu Val Trp Lys Asp
165 170 175

Ala Thr Tyr Gly Ser Glu Ile Lys Thr Glu Lys Val Cys Thr Ala Val
180 185 190

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

Gln Thr Thr Gln Gly Ser Gln Ala Gly Tyr Tyr Gln Gln Thr Asp Ser
210 215 220

Arg Asp Val Pro Ser Ile Lys Val Gln Ala Arg Leu Pro Val Asp Lys
225 230 235 240

Ala Leu Ala Ser Phe Thr Val Gln Gly Gly Gln Leu Leu Leu Ala Pro
245 250 255

Arg Met His Leu Lys Thr Pro Gly Tyr Lys Tyr Gln Gln Ser Lys Cys
260 265 270

Arg Ala Ile Asp Pro Lys Lys Ile Glu Cys Pro Leu Glu Asn Leu Thr
275 280 285

Val Tyr Thr Trp Pro Ala Pro Met Asp Phe Ser Gln Ser Leu Ile Ala
290 295 300

Gln Arg Ala Leu Ser Asp Lys His Arg Gln Leu Leu Ser Arg Leu Gln
305 310 315 320

Pro Leu Gln Ile Thr Pro Leu Arg Lys Gln Gly Met Glu Asp Pro Val
325 330 335

Trp Gly Val Pro Leu Ser Leu Lys
340

eolf-seql

<210> 28

<211> 995

<212> PRT

<213> Pseudomonas aeruginosa

<400> 28

Met Thr Asp Asp His Ser Phe Arg Pro Arg Pro Thr Ser Leu Ser Ala
1 5 10 15

Ala Leu Leu Leu Gly Ala Trp Ile Ala Gln Pro Ala Thr Ala Ala Tyr
20 25 30

Val Glu Ala Gly Arg Pro Gly Asp Pro Ala Ser Trp Arg Ser Ala Glu
35 40 45

Tyr Gln Gln Asp Trp Gly Leu Glu Arg Met Arg Ala Asp Gln Ala Tyr
50 55 60

Ala Ala Gly Ile Asp Gly Gln Gly Val Lys Ile Gly Glu Met Asp Ser
65 70 75 80

Gly Phe Asp Pro Ser His Pro Asp Thr Pro Ala Ser Arg Tyr Gln Pro
85 90 95

Val Thr Ala Ser Gly Thr Tyr Val Asp Gly Thr Pro Phe Ser Val Ser
100 105 110

Gly Ala Met Asn Gly Asn Asn Asp Ser His Gly Thr His Val Gly Gly
115 120 125

Thr Leu Gly Ala Ser Arg Asp Gly Val Gly Met His Gly Val Ala Tyr
130 135 140

Ala Ala Gln Val Tyr Val Ala Asn Thr Asn Gln Asn Asp Ser Phe Leu
145 150 155 160

Phe Gly Pro Thr Pro Asp Pro Asn Tyr Phe Lys Ala Ala Tyr Gln Ala

eolf-seql

165

170

175

Leu Ala Asp Ala Gly Val Arg Ala Ile Asn Asn Ser Trp Gly Ser Gln
180 185 190

Pro Lys Asp Val Ser Tyr Glu Thr Leu Asp Gly Leu His Ala Ala Tyr
195 200 205

Ala Gln His Tyr Gly Arg Ser Thr Trp Leu Asp Ala Ala Ala Gly Val
210 215 220

Ser Arg Gln Gly Val Ile Asn Val Phe Ser Ala Gly Asn Ser Gly Tyr
225 230 235 240

Ala Asn Ala Ser Val Arg Ser Ala Leu Pro Tyr Phe Gln Pro Asp Leu
245 250 255

Glu Gly His Trp Leu Ala Val Ser Gly Leu Asp Gln Gln Asn Gly Gln
260 265 270

Arg Tyr Asn Arg Cys Gly Ile Ala Lys Tyr Trp Cys Ile Thr Thr Pro
275 280 285

Gly Arg Leu Ile Asn Ser Thr Met Pro Gly Gly Gly Tyr Ala Asn Lys
290 295 300

Ser Gly Thr Ser Met Ala Ala Pro His Ala Thr Gly Ala Leu Ala Leu
305 310 315 320

Val Met Gln Arg Tyr Pro Tyr Leu Asn Asn Glu Gln Ala Leu Gln Val
325 330 335

Leu Leu Thr Thr Ala Thr Gln Leu Asp Gly Thr Pro Thr Gly Ala Pro
340 345 350

Thr Asp Thr Val Gly Trp Gly Val Pro Asp Leu Gly Arg Ala Met His

eolf-seql

355

360

365

Gly Pro Gly Gln Leu Leu Gly Arg Phe Glu Ala Asn Leu Pro Ala Gly
 370 375 380

Leu Arg Asp Glu Trp Ser Asn Pro Ile Ser Asp Ser Ala Leu Leu Gln
 385 390 395 400

Arg Gln Ala Glu Asp Ala Ala Glu His Ala Ala Trp Gln Arg Thr Leu
 405 410 415

Lys Asp Lys Gly Trp Glu Asn Gly Leu Pro Ala Gly Ala Ser Gln Gln
 420 425 430

Glu Arg Thr Asp Tyr Ala Ile Gly Met Ala Arg Asp Gln Ala Ala Ala
 435 440 445

Gln Arg Gln Tyr Gln Gly Ser Leu Val Lys Ala Gly Ala Gly Ser Leu
 450 455 460

Val Leu Ser Gly Asp Ser Thr Tyr Arg Gly Pro Thr Leu Val Asp Gly
 465 470 475 480

Gly Leu Leu Ser Val Asp Gly Ser Leu Leu Ser Ala Val Glu Val Asn
 485 490 495

Ala Gly Gly Thr Leu Gly Gly Ser Gly Arg Ile Gly Gly Leu Leu Ala
 500 505 510

Arg Ser Gly Gly Thr Val Ala Ala Gly Asn Ser Ile Gly Thr Leu Glu
 515 520 525

Val Ala Gly Asp Leu Arg Phe Glu Ser Gly Ser Thr Tyr Ala Val Glu
 530 535 540

Leu Ser Glu Ser Ala Ser Asp Arg Ile Val Ala Ser Gly Lys Ala Ser

eolf-seql

545		550		555		560									
Ile	Ala	Gly	Gly	Asn	Val	Thr	Leu	Ala	Met	Glu	Asn	Ser	Pro	Asp	Leu
				565					570					575	
Leu	Ser	Gln	Ser	Gln	Val	Glu	Ser	Leu	Val	Gly	Arg	Arg	Tyr	Asp	Ile
			580					585					590		
Leu	Asp	Ala	Ala	Gly	Gly	Ile	Asp	Gly	Arg	Phe	Asp	Ala	Val	Leu	Pro
		595						600				605			
Asn	Tyr	Leu	Phe	Leu	Gly	Gly	Thr	Leu	Asp	Tyr	Ala	Ala	Asn	Ala	Ile
	610					615					620				
Arg	Leu	Asp	Ile	Gly	Arg	Asn	Gly	Thr	Thr	Leu	Ala	Ser	Val	Ala	Gln
625					630					635					640
Thr	Pro	Asn	Gln	Ala	Ala	Val	Ala	Gly	Ala	Val	Glu	Thr	Leu	Gly	Ala
				645					650					655	
Gly	Asn	Pro	Val	Tyr	Glu	Ser	Leu	Leu	Leu	Ser	Glu	Asn	Ala	Ala	Thr
			660					665					670		
Ala	Gln	Arg	Ala	Phe	Gln	Gln	Leu	Ser	Gly	Glu	Ile	Tyr	Pro	Ala	Leu
		675						680				685			
Ala	Gly	Leu	Leu	Leu	Asn	Asp	Ser	Arg	Tyr	Leu	Arg	Asp	Ser	Val	Gly
	690					695					700				
Glu	Arg	Leu	Arg	Gln	Thr	Ser	Asp	Gly	Glu	Ala	Gly	Gly	Glu	Ala	Pro
705					710					715					720
Glu	Gly	Trp	Phe	Lys	Ala	Leu	Gly	Ser	Trp	Gly	Lys	Ser	Ala	Asp	Gly
				725					730					735	
Ser	His	Gly	Ser	Glu	Gly	Tyr	Arg	His	Ser	Val	Gly	Gly	Phe	Leu	Leu

eolf-seql

740

745

750

Gly Val Asp Ser Gln Val Ala Ser Asp Thr Arg Leu Gly Leu Val Ala
 755 760 765

Gly Tyr Ser Asn Ser Ser Leu Asn Met Asp Ser Ser Leu Gln Ser Ser
 770 775 780

Ala Ser Ile Asp Ser Tyr His Leu Gly Ala Tyr Leu Gly Arg Gln Leu
 785 790 795 800

Gln Gln Trp Arg Leu Ser Leu Gly Ala Ala His Ala Trp His Arg Ala
 805 810 815

Glu Val Lys Arg Asp Leu Gln Tyr Gly Ala Val Ala Gly Lys Gln Lys
 820 825 830

Ala Lys Leu Asp Ala Gln Ser Ser Gln Leu Phe Ala Glu Ala Ala Tyr
 835 840 845

Ala Leu Gly Trp Arg Ser Leu Glu Leu Glu Pro Phe Ala Gly Leu Ala
 850 855 860

Tyr Val His Val Ala Ser Asp Asp Phe Arg Glu Arg Gly Ser Ala Ala
 865 870 875 880

Ala Leu Glu Gly Gly Asp Asp Asn Leu Asp Ala Ala Phe Thr Thr Leu
 885 890 895

Gly Leu Arg Ala Lys Arg His Phe Glu Leu Asp Ala Gly Arg Arg Leu
 900 905 910

Ala Leu Ser Gly Thr Leu Gly Trp Arg His Asn Leu Ser Asp Thr Thr
 915 920 925

Pro Gln Arg His Leu Ala Phe Ala Ser Gly Ser Gln Pro Phe Ser Val

eolf-seql

930

935

940

Glu Ser Val Ala Leu Ser Arg Asp Ala Ala Leu Leu Gly Val Asp Ala
945 950 955 960

Ser Leu Ala Val Asn Arg Glu Val Ser Val Arg Leu Gly Tyr Asn Gly
965 970 975

Leu Leu Gly Ser Arg Glu Lys Asp His Gly Val Gly Leu Ala Val Asp
980 985 990

Trp Arg Phe
995

<210> 29

<211> 162

<212> PRT

<213> Pseudomonas aeruginosa

<400> 29

Met Lys Arg Ile Leu Leu Gly Thr Leu Phe Ala Ala Ala Ser Phe Asn
1 5 10 15

Ala Phe Ala Asp Ala Pro Gly Gly Ala Gly Cys Gly Trp Gly Asn Met
20 25 30

Leu Phe Lys Gly Gln Arg Gly Val Ala Thr His Val Val Ala Ala Thr
35 40 45

Thr Asn Gly Thr Ser Gly Asn Asn Thr Phe Gly Met Thr Thr Gly Thr
50 55 60

Asn Gly Cys His Thr Asn Gly Ala Leu Ser Tyr Gly Gly Lys Pro Leu
65 70 75 80

Leu Val Leu Gly Ser Met Met Asp Glu Leu Ser Glu Asp Met Ala Lys
85 90 95

eolf-seql

Gly Asn Gly Glu Ala Leu Thr Thr Tyr Ala Val Val Leu Gly Val Gln
 100 105 110

Pro Gln Asp Arg Glu His Phe Ala Ala Val Thr His Glu His Phe Ser
 115 120 125

Glu Ile Phe Asn Lys Ser Asp Ala Thr Ala Ala Asp Val Tyr Ala Asn
 130 135 140

Thr Gln Ala Ile Leu Lys Gln Asp Ala Arg Leu Ala Lys Tyr Ala Glu
 145 150 155 160

Gln Ala

<210> 30

<211> 590

<212> PRT

<213> Pseudomonas aeruginosa

<400> 30

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

Asn Lys Ser Leu Ala Leu Leu Thr Val Thr Leu Leu Leu Gly Gly Cys
 20 25 30

Gln Ser Leu Ile His Lys Thr Pro Asp Gly Thr Pro Pro Val Glu Asp
 35 40 45

Thr Ala Val Glu Thr Lys Ala Lys Pro Glu Lys Tyr Gly Ser Phe Ser
 50 55 60

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

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

eolf-seql

85

90

95

Thr Arg Asp Pro Gly Val Ser Glu Arg Ala Phe Arg Ile Ala Glu Tyr
 100 105 110

Leu Gly Ala Asp Gln Glu Ala Leu Asp Thr Ser Leu Leu Trp Ala Arg
 115 120 125

Ser Ala Pro Asp Asn Leu Asp Ala Gln Arg Ala Ala Ala Ile Gln Leu
 130 135 140

Ala Arg Ala Gly Arg Tyr Glu Glu Ser Met Val Tyr Met Glu Lys Val
 145 150 155 160

Leu Asn Gly Gln Gly Asp Thr His Phe Asp Phe Leu Ala Leu Ser Ala
 165 170 175

Ala Glu Thr Asp Pro Asp Thr Arg Ala Gly Leu Leu Gln Ser Phe Asp
 180 185 190

His Leu Leu Lys Lys Tyr Pro Asn Asn Gly Gln Leu Leu Phe Gly Lys
 195 200 205

Ala Leu Leu Leu Gln Gln Asp Gly Arg Pro Asp Glu Ala Leu Thr Leu
 210 215 220

Leu Glu Asp Asn Ser Ala Ser Arg His Glu Val Ala Pro Leu Leu Leu
 225 230 235 240

Arg Ser Arg Leu Leu Gln Ser Met Lys Arg Ser Asp Glu Ala Leu Pro
 245 250 255

Leu Leu Lys Ala Gly Ile Lys Glu His Pro Asp Asp Lys Arg Val Arg
 260 265 270

Leu Ala Tyr Ala Arg Leu Leu Val Glu Gln Asn Arg Leu Asp Asp Ala

eolf-seql

275

280

285

Lys Ala Glu Phe Ala Gly Leu Val Gln Gln Phe Pro Asp Asp Asp Asp
 290 295 300

Leu Arg Phe Ser Leu Ala Leu Val Cys Leu Glu Ala Gln Ala Trp Asp
 305 310 315 320

Glu Ala Arg Ile Tyr Leu Glu Glu Leu Val Glu Arg Asp Ser His Val
 325 330 335

Asp Ala Ala His Phe Asn Leu Gly Arg Leu Ala Glu Glu Gln Lys Asp
 340 345 350

Thr Ala Arg Ala Leu Asp Glu Tyr Ala Gln Val Gly Pro Gly Asn Asp
 355 360 365

Phe Leu Pro Ala Gln Leu Arg Gln Thr Asp Val Leu Leu Lys Ala Gly
 370 375 380

Arg Val Asp Glu Ala Ala Gln Arg Leu Asp Lys Ala Arg Ser Glu Gln
 385 390 395 400

Pro Asp Tyr Ala Ile Gln Leu Tyr Leu Ile Glu Ala Glu Ala Leu Ser
 405 410 415

Asn Asn Asp Gln Gln Glu Lys Ala Trp Gln Ala Ile Gln Glu Gly Leu
 420 425 430

Lys Gln Tyr Pro Glu Asp Leu Asn Leu Leu Tyr Thr Arg Ser Met Leu
 435 440 445

Ala Glu Lys Arg Asn Asp Leu Ala Gln Met Glu Lys Asp Leu Arg Phe
 450 455 460

Val Ile Ala Arg Glu Pro Asp Asn Ala Met Ala Leu Asn Ala Leu Gly

eolf-seql															
465	470					475					480				
Tyr	Thr	Leu	Ala	Asp	Arg	Thr	Thr	Arg	Tyr	Gly	Glu	Ala	Arg	Glu	Leu
				485					490					495	
Ile	Leu	Lys	Ala	His	Lys	Leu	Asn	Pro	Asp	Asp	Pro	Ala	Ile	Leu	Asp
			500					505					510		
Ser	Met	Gly	Trp	Ile	Asn	Tyr	Arg	Gln	Gly	Lys	Leu	Ala	Asp	Ala	Glu
		515					520					525			
Arg	Tyr	Leu	Arg	Gln	Ala	Leu	Gln	Arg	Tyr	Pro	Asp	His	Glu	Val	Ala
	530					535					540				
Ala	His	Leu	Gly	Glu	Val	Leu	Trp	Ala	Gln	Gly	Arg	Gln	Gly	Asp	Ala
545					550					555					560
Arg	Ala	Ile	Trp	Arg	Glu	Tyr	Leu	Asp	Lys	Gln	Pro	Asp	Ser	Asp	Val
				565					570					575	
Leu	Arg	Arg	Thr	Ile	Lys	Arg	Leu	Thr	Gly	Ala	Glu	Thr	Pro		
			580					585					590		
<210> 31															
<211> 149															
<212> PRT															
<213> Pseudomonas aeruginosa															
<400> 31															
Met	Lys	Ala	Gln	Lys	Gly	Phe	Thr	Leu	Ile	Glu	Leu	Met	Ile	Val	Val
1				5					10					15	
Ala	Ile	Ile	Gly	Ile	Leu	Ala	Ala	Ile	Ala	Ile	Pro	Gln	Tyr	Gln	Asn
			20					25					30		
Tyr	Val	Ala	Arg	Ser	Glu	Gly	Ala	Ser	Ala	Leu	Ala	Thr	Ile	Asn	Pro
		35					40					45			

eolf-seql

Leu Lys Thr Thr Val Glu Glu Ser Leu Ser Arg Gly Ile Ala Gly Ser
50 55 60

Lys Ile Lys Ile Gly Thr Thr Ala Ser Thr Ala Thr Glu Thr Tyr Val
65 70 75 80

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

Glu Asp Ser Gly Ala Gly Asp Ile Thr Phe Thr Phe Gln Thr Gly Thr
100 105 110

Ser Ser Pro Lys Asn Ala Thr Lys Val Ile Thr Leu Asn Arg Thr Ala
115 120 125

Asp Gly Val Trp Ala Cys Lys Ser Thr Gln Asp Pro Met Phe Thr Pro
130 135 140

Lys Gly Cys Asp Asn
145

<210> 32

<211> 224

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 32

Met Ala His His His His His His Ala Pro Ala Pro Glu Pro Val Ala
1 5 10 15

Asp Val Cys Ser Asp Ser Asp Asn Asp Gly Val Cys Asp Asn Val Asp
20 25 30

eolf-seql

Lys Cys Pro Asp Thr Pro Ala Asn Val Thr Val Asp Ala Asn Gly Cys
35 40 45

Pro Ala Val Ala Glu Val Val Arg Val Gln Leu Asp Val Lys Phe Asp
50 55 60

Phe Asp Lys Ser Lys Val Lys Glu Asn Ser Tyr Ala Asp Ile Lys Asn
65 70 75 80

Leu Ala Asp Phe Met Lys Gln Tyr Pro Ser Thr Ser Thr Thr Val Glu
85 90 95

Gly His Thr Asp Ser Val Gly Thr Asp Ala Tyr Asn Gln Lys Leu Ser
100 105 110

Glu Arg Arg Ala Asn Ala Val Arg Asp Val Leu Val Asn Glu Tyr Gly
115 120 125

Val Glu Gly Gly Arg Val Asn Ala Val Gly Tyr Gly Glu Ser Arg Pro
130 135 140

Val Ala Asp Asn Ala Thr Ala Glu Gly Arg Ala Ile Asn Arg Arg Val
145 150 155 160

Glu Ser Ser His Ser Lys Glu Thr Glu Ala Arg Leu Thr Ala Thr Glu
165 170 175

Asp Ala Ala Ala Arg Ala Gln Ala Arg Ala Asp Glu Ala Tyr Arg Lys
180 185 190

Ala Asp Glu Ala Leu Gly Ala Ala Gln Lys Ala Gln Gln Thr Ala Asp
195 200 205

Glu Ala Asn Glu Arg Ala Leu Arg Met Leu Glu Lys Ala Ser Arg Lys
210 215 220

eolf-seql

<210> 33

<211> 488

<212> PRT

<213> Pseudomonas aeruginosa

<400> 33

Met Ala Leu Thr Val Asn Thr Asn Ile Ala Ser Leu Asn Thr Gln Arg
1 5 10 15

Asn Leu Asn Ala Ser Ser Asn Asp Leu Asn Thr Ser Leu Gln Arg Leu
20 25 30

Thr Thr Gly Tyr Arg Ile Asn Ser Ala Lys Asp Asp Ala Ala Gly Leu
35 40 45

Gln Ile Ser Asn Arg Leu Ser Asn Gln Ile Ser Gly Leu Asn Val Ala
50 55 60

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

Ala Leu Gln Gln Ser Thr Asn Ile Leu Gln Arg Ile Arg Asp Leu Ala
85 90 95

Leu Gln Ser Ala Asn Gly Ser Asn Ser Asp Ala Asp Arg Ala Ala Leu
100 105 110

Gln Lys Glu Val Ala Ala Gln Gln Ala Glu Leu Thr Arg Ile Ser Asp
115 120 125

Thr Thr Thr Phe Gly Gly Arg Lys Leu Leu Asp Gly Ser Phe Gly Thr
130 135 140

Thr Ser Phe Gln Val Gly Ser Asn Ala Tyr Glu Thr Ile Asp Ile Ser
145 150 155 160

Leu Gln Asn Ala Ser Ala Ser Ala Ile Gly Ser Tyr Gln Val Gly Ser
165 170 175

eolf-seql

Asn Gly Ala Gly Thr Val Ala Ser Val Ala Gly Thr Ala Thr Ala Ser
180 185 190

Gly Ile Ala Ser Gly Thr Val Asn Leu Val Gly Gly Gly Gln Val Lys
195 200 205

Asn Ile Ala Ile Ala Ala Gly Asp Ser Ala Lys Ala Ile Ala Glu Lys
210 215 220

Met Asp Gly Ala Ile Pro Asn Leu Ser Ala Arg Ala Arg Thr Val Phe
225 230 235 240

Thr Ala Asp Val Ser Gly Val Thr Gly Gly Ser Leu Asn Phe Asp Val
245 250 255

Thr Val Gly Ser Asn Thr Val Ser Leu Ala Gly Val Thr Ser Thr Gln
260 265 270

Asp Leu Ala Asp Gln Leu Asn Ser Asn Ser Ser Lys Leu Gly Ile Thr
275 280 285

Ala Ser Ile Asn Asp Lys Gly Val Leu Thr Ile Thr Ser Ala Thr Gly
290 295 300

Glu Asn Val Lys Phe Gly Ala Gln Thr Gly Thr Ala Thr Ala Gly Gln
305 310 315 320

Val Ala Val Lys Val Gln Gly Ser Asp Gly Lys Phe Glu Ala Ala Ala
325 330 335

Lys Asn Val Val Ala Ala Gly Thr Ala Ala Thr Thr Thr Ile Val Thr
340 345 350

Gly Tyr Val Gln Leu Asn Ser Pro Thr Ala Tyr Ser Val Ser Gly Thr
355 360 365

eolf-seql

Gly Thr Gln Ala Ser Gln Val Phe Gly Asn Ala Ser Ala Ala Gln Lys
370 375 380

Ser Ser Val Ala Ser Val Asp Ile Ser Thr Ala Asp Gly Ala Gln Asn
385 390 395 400

Ala Ile Ala Val Val Asp Asn Ala Leu Ala Ala Ile Asp Ala Gln Arg
405 410 415

Ala Asp Leu Gly Ala Val Gln Asn Arg Phe Lys Asn Thr Ile Asp Asn
420 425 430

Leu Thr Asn Ile Ser Glu Asn Ala Thr Asn Ala Arg Ser Arg Ile Lys
435 440 445

Asp Thr Asp Phe Ala Ala Glu Thr Ala Ala Leu Ser Lys Asn Gln Val
450 455 460

Leu Gln Gln Ala Gly Thr Ala Ile Leu Ala Gln Ala Asn Gln Leu Pro
465 470 475 480

Gln Ala Val Leu Ser Leu Leu Arg
485

<210> 34

<211> 474

<212> PRT

<213> Pseudomonas aeruginosa

<400> 34

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

Val Asn Lys Met Val Asn Leu Glu Gly Ala Ala Lys Thr Asn Gln Leu
20 25 30

eolf-seq1

Ala Thr Leu Glu Lys Thr Thr Thr Thr Arg Leu Thr Ala Leu Gly Gln
35 40 45

Phe Lys Ser Ala Ile Ser Ala Phe Gln Thr Ala Leu Thr Ala Leu Asn
50 55 60

Ser Asn Ala Val Phe Met Ala Arg Thr Ala Lys Ser Ser Asn Glu Asp
65 70 75 80

Ile Leu Lys Ala Ser Ala Thr Gln Ser Ala Val Ala Gly Thr Tyr Gln
85 90 95

Ile Gln Val Asn Ser Leu Ala Thr Ser Ser Lys Ile Ala Leu Gln Ala
100 105 110

Ile Ala Asp Pro Ala Asn Ala Lys Phe Asn Ser Gly Thr Leu Asn Ile
115 120 125

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

Asn Thr Leu Ala Gly Met Arg Asp Ala Ile Asn Gln Ala Gly Lys Glu
145 150 155 160

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

Val Leu Ser Ser Thr Lys Thr Gly Asp Gly Lys Asp Ile Lys Val Glu
180 185 190

Val Ser Asp Asp Gly Ser Gly Gly Asn Thr Ser Leu Ser Gln Leu Ala
195 200 205

Phe Asp Pro Ala Thr Ala Pro Lys Leu Ser Asp Gly Ala Ala Ala Gly
210 215 220

eolf-seql

Tyr Val Thr Lys Ala Ala Asn Gly Glu Ile Thr Val Asp Gly Leu Lys
225 230 235 240

Arg Ser Ile Ala Ser Asn Ser Val Ser Asp Val Ile Asp Gly Val Ser
245 250 255

Phe Asp Val Lys Ala Val Thr Glu Ala Gly Lys Pro Ile Thr Leu Thr
260 265 270

Val Ser Arg Asp Asp Ala Gly Val Lys Asp Asn Val Lys Lys Phe Val
275 280 285

Glu Ala Tyr Asn Thr Leu Thr Lys Phe Ile Asn Glu Gln Thr Val Val
290 295 300

Thr Lys Val Gly Glu Asp Lys Asn Pro Val Thr Gly Ala Leu Leu Gly
305 310 315 320

Asp Ala Ser Val Arg Ala Leu Val Asn Thr Met Arg Ser Glu Leu Ile
325 330 335

Ala Ser Asn Glu Asn Gly Ser Val Arg Asn Leu Ala Ala Leu Gly Ile
340 345 350

Thr Thr Thr Lys Asp Gly Thr Leu Glu Ile Asp Glu Lys Lys Leu Asp
355 360 365

Lys Ala Ile Ser Ala Asp Phe Glu Gly Val Ala Ser Tyr Phe Thr Gly
370 375 380

Asp Thr Gly Leu Ala Lys Arg Leu Gly Asp Lys Met Lys Pro Tyr Thr
385 390 395 400

Asp Ala Gln Gly Ile Leu Asp Gln Arg Thr Thr Thr Leu Gln Lys Thr
405 410 415

eolf-seq1

Leu Ser Asn Val Asp Thr Gln Lys Ala Asp Leu Ala Lys Arg Leu Ala
420 425 430

Ala Leu Gln Glu Lys Leu Thr Thr Gln Phe Asn Leu Leu Ser Ala Met
435 440 445

Gln Asp Glu Met Thr Lys Arg Gln Lys Ser Ile Thr Asp Asn Leu Ala
450 455 460

Ser Leu Pro Tyr Gly Ser Gly Lys Lys Thr
465 470

<210> 35

<211> 638

<212> PRT

<213> Pseudomonas aeruginosa

<400> 35

Met His Leu Thr Pro His Trp Ile Pro Leu Val Ala Ser Leu Gly Leu
1 5 10 15

Leu Ala Gly Gly Ser Phe Ala Ser Ala Ala Glu Glu Ala Phe Asp Leu
20 25 30

Trp Asn Glu Cys Ala Lys Ala Cys Val Leu Asp Leu Lys Asp Gly Val
35 40 45

Arg Ser Ser Arg Met Ser Val Asp Pro Ala Ile Ala Asp Thr Asn Gly
50 55 60

Gln Gly Val Leu His Tyr Ser Met Val Leu Glu Gly Gly Asn Asp Ala
65 70 75 80

Leu Lys Leu Ala Ile Asp Asn Ala Leu Ser Ile Thr Ser Asp Gly Leu
85 90 95

Thr Ile Arg Leu Glu Gly Gly Val Glu Pro Asn Lys Pro Val Arg Tyr
100 105 110

eolf-seql

Ser Tyr Thr Arg Gln Ala Arg Gly Ser Trp Ser Leu Asn Trp Leu Val
115 120 125

Pro Ile Gly His Glu Lys Pro Ser Asn Ile Lys Val Phe Ile His Glu
130 135 140

Leu Asn Ala Gly Asn Gln Leu Ser His Met Ser Pro Ile Tyr Thr Ile
145 150 155 160

Glu Met Gly Asp Glu Leu Leu Ala Lys Leu Ala Arg Asp Ala Thr Phe
165 170 175

Phe Val Arg Ala His Glu Ser Asn Glu Met Gln Pro Thr Leu Ala Ile
180 185 190

Ser His Ala Gly Val Ser Val Val Met Ala Gln Ala Gln Pro Arg Arg
195 200 205

Glu Lys Arg Trp Ser Glu Trp Ala Ser Gly Lys Val Leu Cys Leu Leu
210 215 220

Asp Pro Leu Asp Gly Val Tyr Asn Tyr Leu Ala Gln Gln Arg Cys Asn
225 230 235 240

Leu Asp Asp Thr Trp Glu Gly Lys Ile Tyr Arg Val Leu Ala Gly Asn
245 250 255

Pro Ala Lys His Asp Leu Asp Ile Lys Pro Thr Val Ile Ser His Arg
260 265 270

Leu His Phe Pro Glu Gly Gly Ser Leu Ala Ala Leu Thr Ala His Gln
275 280 285

Ala Cys His Leu Pro Leu Glu Thr Phe Thr Arg His Arg Gln Pro Arg
290 295 300

eolf-seql

Gly Trp Glu Gln Leu Glu Gln Cys Gly Tyr Pro Val Gln Arg Leu Val
305 310 315 320

Ala Leu Tyr Leu Ala Ala Arg Leu Ser Trp Asn Gln Val Asp Gln Val
325 330 335

Ile Arg Asn Ala Leu Ala Ser Pro Gly Ser Gly Gly Asp Leu Gly Glu
340 345 350

Ala Ile Arg Glu Gln Pro Glu Gln Ala Arg Leu Ala Leu Thr Leu Ala
355 360 365

Ala Ala Glu Ser Glu Arg Phe Val Arg Gln Gly Thr Gly Asn Asp Glu
370 375 380

Ala Gly Ala Ala Ser Ala Asp Val Val Ser Leu Thr Cys Pro Val Ala
385 390 395 400

Ala Gly Glu Cys Ala Gly Pro Ala Asp Ser Gly Asp Ala Leu Leu Glu
405 410 415

Arg Asn Tyr Pro Thr Gly Ala Glu Phe Leu Gly Asp Gly Gly Asp Ile
420 425 430

Ser Phe Ser Thr Arg Gly Thr Gln Asn Trp Thr Val Glu Arg Leu Leu
435 440 445

Gln Ala His Arg Gln Leu Glu Glu Arg Gly Tyr Val Phe Val Gly Tyr
450 455 460

His Gly Thr Phe Leu Glu Ala Ala Gln Ser Ile Val Phe Gly Gly Val
465 470 475 480

Arg Ala Arg Ser Gln Asp Leu Asp Ala Ile Trp Arg Gly Phe Tyr Ile
485 490 495

eolf-seql

Ala Gly Asp Pro Ala Leu Ala Tyr Gly Tyr Ala Gln Asp Gln Glu Pro
500 505 510

Asp Ala Arg Gly Arg Ile Arg Asn Gly Ala Leu Leu Arg Val Tyr Val
515 520 525

Pro Arg Ser Ser Leu Pro Gly Phe Tyr Arg Thr Gly Leu Thr Leu Ala
530 535 540

Ala Pro Glu Ala Ala Gly Glu Val Glu Arg Leu Ile Gly His Pro Leu
545 550 555 560

Pro Leu Arg Leu Asp Ala Ile Thr Gly Pro Glu Glu Glu Gly Gly Arg
565 570 575

Leu Glu Thr Ile Leu Gly Trp Pro Leu Ala Glu Arg Thr Val Val Ile
580 585 590

Pro Ser Ala Ile Pro Thr Asp Pro Arg Asn Val Gly Gly Asp Leu Asp
595 600 605

Pro Ser Ser Ile Pro Asp Lys Glu Gln Ala Ile Ser Ala Leu Pro Asp
610 615 620

Tyr Ala Ser Gln Pro Gly Lys Pro Pro Arg Glu Asp Leu Lys
625 630 635

<210> 36

<211> 625

<212> PRT

<213> Pseudomonas aeruginosa

<400> 36

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

eolf-seq1

Asp Tyr Pro Gly Arg Tyr Arg Gly Thr Ala Ser Phe Ala Gly Ala Ser
20 25 30

Lys Leu Met Gln Ser Arg Leu Gly Phe Gly Tyr Gln Thr Ser Arg Gln
35 40 45

Asp Phe Thr Trp Ala Gly Asn Arg Ser Ser Gln Asn Val Ile Ala Ser
50 55 60

Ala Pro Gly Ser Ser Gly Lys Phe Leu Val Leu Gly Ala His Tyr Asp
65 70 75 80

Thr Tyr Tyr Gly Arg Pro Thr Leu Gln Gly Leu Asp Asp Asn Ala Ser
85 90 95

Gly Ala Ala Val Leu Thr Glu Ile Ala Arg Asn Leu Gly Gly Ile Ala
100 105 110

Leu Glu Asn Gly Leu Glu Val Val Gly Phe Gly Ala Glu Glu Glu Gly
115 120 125

Leu Arg Gly Ser Arg Ala Tyr Val Glu Ser Leu Asp Ala Ser Gln Arg
130 135 140

Ala Asn Leu Leu Gly Met Ile Asn Leu Asp Ser Leu Val Thr Gly Asp
145 150 155 160

Lys Met Tyr Ala His Ala Gly Ser Asn Ser Val Ser Asn Pro Ala Leu
165 170 175

Gly Ala Tyr Arg Glu Gln Ile Leu Arg Ile Ala Arg Glu Leu Asp Ile
180 185 190

Pro Leu Phe Thr Asn Pro Gly Leu Asn Ala Glu Tyr Pro Ala Gly Thr
195 200 205

eolf-seq1

Gly Cys Cys Ser Asp Gly Glu Ser Phe Asn Gly Met Asp Ile Pro Val
210 215 220

Leu Phe Ile Glu Ala Thr Asn Trp Glu Leu Gly Asp Leu Asp Gly Tyr
225 230 235 240

Glu Gln Thr Asp Asn Pro Ala Ile Pro Gly Gly Ser Thr Trp His Asp
245 250 255

Pro Ala Glu Asp Asn Lys Glu Val Leu Thr Asn Ala Leu Gly Gln Glu
260 265 270

Arg Ile Glu Gln Arg Met Arg Asp Phe Ser Arg Leu Leu Thr Arg Leu
275 280 285

Val Leu Glu Gln Thr Asn Ala Asp Leu Leu Ala Ser Thr Ala Ser Gly
290 295 300

Gly Ala Leu Ala Arg Gln Met Glu Asp Gln Leu Gln Arg Gln His Gln
305 310 315 320

Ala Leu Thr Arg Leu His Asp Arg Arg Trp Leu Thr Leu Leu Gly Ser
325 330 335

Asn Arg Pro Val Gly Ser Phe Asp Gly Glu Val Gly Ala Glu Gly Glu
340 345 350

Val Ser Pro Asp Ser Gly Phe Asp Met Pro Gly Asn Pro Glu Ser Arg
355 360 365

Arg Ala Gly Val His Leu Leu Gly Asp Tyr Arg Tyr Ser Glu Ala Leu
370 375 380

Thr Leu Gly Gly Ser Leu Ala Phe Gln Arg Ser Arg Asp Lys Leu Asp
385 390 395 400

eolf-seql

His Gly Gly Arg Ile Glu Gly Asp Thr Trp Gln Leu Gly Leu Phe Gly
405 410 415

Leu Tyr Asn Asp Gly Gly Pro Glu Trp Leu Ala Gly Glu Leu Asn Leu
420 425 430

Gly His Thr Arg Tyr Asp Ser Lys Arg Ser Val Tyr Leu Gln Ala Ala
435 440 445

Gly Gly Pro Val Leu Leu Asp Gln Arg Leu Ser Gly Asp Thr Ser Ala
450 455 460

Trp Ser Trp Gly Ala Arg Leu Glu Gly Gly Tyr Asp Phe Ser Phe Gly
465 470 475 480

Glu Leu Arg Ser Gly Pro Leu Ala Gly Leu Asp Tyr Met His Tyr Arg
485 490 495

Ile Asp Asp Phe Arg Glu Asp Glu Ala Leu Arg Thr Ala Leu Gly Tyr
500 505 510

Glu Lys Gln Asp Tyr Asp Ser Leu Glu Ala Ser Leu Gly Trp Arg Leu
515 520 525

Arg Gly Glu Leu Ala Leu Gly Ala Arg Met Arg Leu Gln Pro Tyr Ala
530 535 540

Ser Leu Arg Trp Val Arg Glu Leu Ala Asp Gly Arg Leu Asp Asp Met
545 550 555 560

Asp Leu Thr Ser Arg Gly Asp Gly Arg Val Arg Val Ala Asp Met Gly
565 570 575

Gly Val Asp Lys Asp Phe Gly Arg Ala Gln Leu Gly Ala Gln Leu Ala
580 585 590

eolf-seq1

Ile Thr Glu Gln Leu Gly Val Phe Ala Glu Ala Asn Ser Arg Phe Ala
595 600 605

His Ser Glu Gly Asn Gln Ala Gly Tyr Ser Leu Gly Val Asn Trp Gln
610 615 620

Phe
625

<210> 37

<211> 178

<212> PRT

<213> Pseudomonas aeruginosa

<400> 37

Ala Asp Asn Phe Val Gly Leu Thr Trp Gly Glu Thr Ser Asn Asn Ile
1 5 10 15

Gln Lys Ser Lys Ser Leu Asn Arg Asn Leu Asn Ser Pro Asn Leu Asp
20 25 30

Lys Val Ile Asp Asn Thr Gly Thr Trp Gly Ile Arg Ala Gly Gln Gln
35 40 45

Phe Glu Gln Gly Arg Tyr Tyr Ala Thr Tyr Glu Asn Ile Ser Asp Thr
50 55 60

Ser Ser Gly Asn Lys Leu Arg Gln Gln Asn Leu Leu Gly Ser Tyr Asp
65 70 75 80

Ala Phe Leu Pro Ile Gly Asp Asn Asn Thr Lys Leu Phe Gly Gly Ala
85 90 95

Thr Leu Gly Leu Val Lys Leu Glu Gln Asp Gly Lys Gly Phe Lys Arg
100 105 110

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

eolf-seql

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

Thr Asn Ala Ser Thr Glu Met Thr Pro His Gly Gly Asn Lys Leu Gly
 145 150 155 160

Ser Leu Asp Leu His Ser Ser Ser Gln Phe Tyr Leu Gly Ala Asn Tyr
 165 170 175

Lys Phe

<210> 38

<211> 622

<212> PRT

<213> Pseudomonas aeruginosa

<400> 38

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

Asp Ala Gly Gln Phe Pro Asp Pro Ala Gly Pro Ala Gly Ser Thr Ser
 20 25 30

Arg Phe Thr Asn Arg Val Gly Pro Thr Tyr Gln Asn Gly Ser Gly Glu
 35 40 45

Ile Phe Gly Pro Thr Ala Pro Met Leu Leu Gly Asn Gln Leu Gly Ile
 50 55 60

Ala Pro Gly Asp Leu Ala Ala Ser Thr Ser Pro Val Asn Ala Gln Gln
 65 70 75 80

Gly Ile Ala Asp Gly Asn Asn Trp Ala Val Gly Gly Tyr Arg Thr Asp
 85 90 95

eolf-seq1

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

Asp Asn Thr Leu Leu Arg Ser Arg Asp Gly Tyr Leu Val Asp Arg Ala
115 120 125

Arg Gln Gly Leu Gly Ala Asp Pro Asn Ala Leu Tyr Tyr Ile Thr Gly
130 135 140

Gly Gly Asn Asp Phe Leu Gln Gly Arg Ile Leu Asn Asp Val Gln Ala
145 150 155 160

Gln Gln Ala Ala Gly Arg Leu Val Asp Ser Val Gln Ala Leu Gln Gln
165 170 175

Ala Gly Ala Arg Tyr Ile Val Val Trp Leu Leu Pro Asp Leu Gly Leu
180 185 190

Thr Pro Ala Thr Phe Gly Gly Pro Leu Gln Pro Phe Ala Ser Gln Leu
195 200 205

Ser Gly Thr Phe Asn Ala Glu Leu Thr Ala Gln Leu Ser Gln Ala Gly
210 215 220

Ala Asn Val Ile Pro Leu Asn Ile Pro Leu Leu Leu Lys Glu Gly Met
225 230 235 240

Ala Asn Pro Ala Ser Phe Gly Leu Ala Ala Asp Gln Asn Leu Ile Gly
245 250 255

Thr Cys Phe Ser Gly Asn Gly Cys Thr Met Asn Pro Thr Tyr Gly Ile
260 265 270

Asn Gly Ser Thr Pro Asp Pro Ser Lys Leu Leu Phe Asn Asp Ser Val
275 280 285

eolf-seql

His Pro Thr Ile Thr Gly Gln Arg Leu Ile Ala Asp Tyr Thr Tyr Ser
290 295 300

Leu Leu Ser Ala Pro Trp Glu Leu Thr Leu Leu Pro Glu Met Ala His
305 310 315 320

Gly Thr Leu Arg Ala Tyr Gln Asp Glu Leu Arg Ser Gln Trp Gln Ala
325 330 335

Asp Trp Glu Asn Trp Gln Asn Val Gly Gln Trp Arg Gly Phe Val Gly
340 345 350

Gly Gly Gly Gln Arg Leu Asp Phe Asp Ser Gln Asp Ser Ala Ala Ser
355 360 365

Gly Asp Gly Asn Gly Tyr Asn Leu Thr Leu Gly Gly Ser Tyr Arg Ile
370 375 380

Asp Glu Ala Trp Arg Ala Gly Val Ala Ala Gly Phe Tyr Arg Gln Lys
385 390 395 400

Leu Glu Ala Gly Ala Lys Asp Ser Asp Tyr Arg Met Asn Ser Tyr Met
405 410 415

Ala Ser Ala Phe Val Gln Tyr Gln Glu Asn Arg Trp Trp Ala Asp Ala
420 425 430

Ala Leu Thr Gly Gly Tyr Leu Asp Tyr Asp Asp Leu Lys Arg Lys Phe
435 440 445

Ala Leu Gly Gly Gly Glu Arg Ser Glu Lys Gly Asp Thr Asn Gly His
450 455 460

Leu Trp Ala Phe Ser Ala Arg Leu Gly Tyr Asp Ile Ala Gln Gln Ala
465 470 475 480

eolf-seq1

Asp Ser Pro Trp His Leu Ser Pro Phe Val Ser Ala Asp Tyr Ala Arg
485 490 495

Val Glu Val Asp Gly Tyr Ser Glu Lys Gly Ala Ser Ala Thr Ala Leu
500 505 510

Asp Tyr Asp Asp Gln Lys Arg Ser Ser Lys Arg Leu Gly Ala Gly Leu
515 520 525

Gln Gly Lys Tyr Ala Phe Gly Ser Asp Thr Gln Leu Phe Ala Glu Tyr
530 535 540

Ala His Glu Arg Glu Tyr Glu Asp Asp Thr Gln Asp Leu Thr Met Ser
545 550 555 560

Leu Asn Ser Leu Pro Gly Asn Arg Phe Thr Leu Glu Gly Tyr Thr Pro
565 570 575

Gln Asp His Leu Asn Arg Val Ser Leu Gly Phe Ser Gln Lys Leu Ala
580 585 590

Pro Glu Leu Ser Leu Arg Gly Gly Tyr Asn Trp Arg Lys Gly Glu Asp
595 600 605

Asp Thr Gln Gln Ser Val Ser Leu Ala Leu Ser Leu Asp Phe
610 615 620

<210> 39

<211> 463

<212> PRT

<213> Pseudomonas aeruginosa

<400> 39

Arg Glu Asp Ala Phe Ala Leu Gly Leu Leu Asp Gly Tyr His Leu Ala
1 5 10 15

Leu Glu Asn Asp Pro Gln Phe Gln Ala Ala Ile Gln Glu His Glu Ala
20 25 30

eolf-seql

Gly Arg Gln Tyr Arg Ala Leu Gly Arg Ala Ala Leu Leu Pro Arg Leu
35 40 45

Val Tyr Ser Tyr Asn Arg Gly Arg Ser Trp Ser Asp Val Thr Gln Thr
50 55 60

Thr Thr Arg Gly Asp Phe Lys Glu Asp Arg Asp Tyr Asp Ser Tyr Val
65 70 75 80

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

Arg Tyr Arg Lys Gly Val Ala Gln Ala Leu Leu Ser Asp Glu Arg Phe
100 105 110

Arg Ser Gln Ser Gln Glu Leu Leu Val Arg Val Leu Glu Ala Tyr Thr
115 120 125

Gly Ala Leu Leu Ala Gln Asp Gln Ile Glu Leu Ala Arg Ala Gln Lys
130 135 140

Arg Ser Tyr Arg Glu Gln Phe Gln Leu Asn Gln Arg Gln Phe Glu Arg
145 150 155 160

Gly Asn Gly Thr Arg Thr Asp Thr Leu Glu Thr Gln Ala Arg Phe Asn
165 170 175

Leu Ala Gln Ala Gln Glu Ile Glu Ala Arg Asp Ser Gln Asp Ala Ala
180 185 190

Leu Arg Glu Leu Glu Arg Leu Val Gly Ala Pro Leu Glu Ile Ala Asp
195 200 205

Leu Ala Pro Leu Gly Glu Arg Phe Gln Val Arg Pro Leu Ser Pro Ala
210 215 220

eolf-seql

Ser Tyr Thr Ala Trp Arg Asp Leu Ala Leu Ala Glu Asn Pro Glu Leu
225 230 235 240

Ala Ser Leu Arg His Ala Val Asp Val Ala Arg Tyr Glu Val Glu Gln
245 250 255

Asn Arg Ala Asp Phe Leu Pro Arg Leu Gly Leu Tyr Ala Ser Thr Gly
260 265 270

Lys Ser Lys Ser Gly Ser Glu Asn Thr Tyr Asn Gln Arg Tyr Glu Thr
275 280 285

Asp Ser Val Gly Ile Gln Leu Ser Val Pro Leu Phe Ser Gly Gly Glu
290 295 300

Thr Leu Ala Ala Thr Arg Gln Ala Thr His Arg Met Glu Lys Ser His
305 310 315 320

Tyr Asp Leu Asp Asp Lys Val Arg Glu Thr Leu Asn Gln Val Arg Lys
325 330 335

Met Tyr Asn Gln Ser Ser Ser Ser Ala Ala Lys Ile Arg Ala Tyr Glu
340 345 350

Met Thr Val Asp Ser Ala Arg Thr Leu Val Met Ala Thr Arg Lys Ser
355 360 365

Ile Ala Ala Gly Val Arg Val Asn Leu Asp Leu Leu Asn Ala Glu Gln
370 375 380

Ala Leu Tyr Ser Ala Met Asn Glu Leu Ser Lys Ala Lys Tyr Asp Tyr
385 390 395 400

Leu Thr Ala Trp Ala Arg Leu Arg Phe Tyr Ala Gly Val Leu Asp Glu
405 410 415

eolf-seql

Ala Asp Leu Glu Leu Val Ala Ala Asn Phe Val Ser Gly Glu Thr Pro
420 425 430

Ala Arg Arg Arg Asp Cys Ala Thr Thr Asp Cys Pro Ala Pro Leu His
435 440 445

Thr Leu Ser Lys Thr Asp Thr Glu Glu Asn Arg Ser Ala Leu Asn
450 455 460

<210> 40

<211> 280

<212> PRT

<213> Pseudomonas aeruginosa

<400> 40

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

Ser Tyr Val Ser Asn Ile Val Gly Asp Lys Ala Glu Val Val Pro Leu
20 25 30

Ile Pro Ala Gly Phe Asn Pro His Ala Tyr Glu Pro Arg Ala Glu Asp
35 40 45

Ile Lys Arg Ile Gly Thr Leu Asp Val Val Val Leu Asn Gly Val Gly
50 55 60

His Asp Asp Phe Ala Glu Arg Met Ile Ala Ser Ser Glu Lys Pro Gly
65 70 75 80

Ile Pro Val Ile Glu Ala Asn Ala Lys Val Pro Leu Leu Ala Ala Thr
85 90 95

Gly Met Ala Ala Arg Gly Ala Gly Lys Val Val Asn Pro His Thr Phe
100 105 110

eolf-seq1

Leu Ser Ile Ser Ala Ser Ile Thr Gln Val Asn Thr Ile Ala Arg Glu
115 120 125

Leu Gly Lys Leu Asp Pro Ala Asn Ala Lys Ala Tyr Thr Arg Asn Ala
130 135 140

Arg Ala Tyr Ala Lys Arg Leu Arg Ala Leu Arg Ala Asp Ala Leu Ala
145 150 155 160

Arg Leu Asn Lys Ala Pro Ala Ala Asp Phe Arg Val Ala Thr Ile His
165 170 175

Gly Ala Tyr Asp Tyr Leu Leu Arg Glu Phe Gly Leu Glu Val Thr Ala
180 185 190

Val Val Glu Pro Ala His Gly Ile Glu Pro Ser Pro Ser Gln Leu Lys
195 200 205

Lys Thr Ile Asp Gln Leu Lys Ala Leu Asp Val Lys Val Ile Phe Ser
210 215 220

Glu Ile Asp Phe Pro Ser Thr Tyr Val Glu Thr Ile Gln Arg Glu Ser
225 230 235 240

Gly Val Lys Leu Tyr Ser Leu Ser His Ile Ser Tyr Gly Asp Tyr Ser
245 250 255

Ala Gly Lys Tyr Glu Glu Glu Met Ala Arg Asn Leu Asp Thr Val Val
260 265 270

Arg Ala Ile Gln Glu Ser Gly Ala
275 280

<210> 41

<211> 302

<212> PRT

<213> Pseudomonas aeruginosa

eolf-seql

<400> 41

Val Thr Phe Gln Thr Arg Leu Glu Ser Val Glu Trp Lys Val Glu Gly
1 5 10 15

Asp Gln Phe Glu Cys Arg Leu Ser Gln Pro Val Ala Asn Phe Gly Val
20 25 30

Gly Glu Phe Val Arg Arg Ala Gly Glu Gln Ala Thr Phe Arg Leu Lys
35 40 45

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

Ala Pro Pro Trp Arg Pro Gly Gln Gly Asp Ile Asn Leu Gly Gln Val
65 70 75 80

Ser Ile Gly Ser Gly Glu Val Pro Phe Asn Ser Ser Gln Gln Gln Ala
85 90 95

Gly Arg Leu Leu Thr Gly Leu Leu Glu Gly Arg Ser Pro Leu Val Arg
100 105 110

His Arg Thr Trp Gln Gly Asp Arg Leu Glu Val Arg Leu Leu Pro Ala
115 120 125

Arg Phe Ala Ser Val Tyr Ser Gln Tyr Gln Ala Cys Ile Ala Lys Leu
130 135 140

Leu Pro Val Asn Phe Asp Gln Val Lys Leu Ala Gln Val Gly Phe Pro
145 150 155 160

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

Ile Leu Gln Leu Leu Lys Ala Asp Pro Ser Ile Asn Arg Ile Glu Leu
180 185 190

eolf-seql

Asp Gly His Ser Asp Asn Ser Gly Asn Arg Leu Thr Asn Arg Asp Leu
195 200 205

Ser Arg Arg Arg Ala Leu Ala Val Gln Glu Tyr Leu Lys Ser Asn Gly
210 215 220

Val Pro Glu Ser Gln Ile Asn Val Arg Phe Tyr Gly Glu Arg Tyr Pro
225 230 235 240

Leu Val Ala Asn Asn Ser Ala Ala Asn Arg Ala Arg Asn Arg Arg Val
245 250 255

Thr Val His Leu Ser Arg Glu Ala Val Val Glu Pro Ala Thr Glu Ala
260 265 270

Pro Lys Ala Glu Asp Lys Pro Ala Pro Pro Ala Ala Glu Pro Ala Ala
275 280 285

Pro Lys Pro Pro Ala Ala Ser Leu Gln Gly Lys Pro Thr Val
290 295 300

<210> 42

<211> 530

<212> PRT

<213> Pseudomonas aeruginosa

<400> 42

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

His Leu Ser Gly Gly Asn Ser Leu Ser Val Asn Gln Lys Val Asp Lys
20 25 30

Leu Ile Ala Asn Trp Asp Ser Phe Ser Val Ala Ala Gly Glu Arg Val
35 40 45

eolf-seql

Ile Phe Asn Gln Pro Ser Ser Ser Ser Ile Ala Leu Asn Arg Val Ile
50 55 60

Gly Thr Lys Ala Ser Asp Ile Gln Gly Arg Ile Asp Ala Asn Gly Gln
65 70 75 80

Val Phe Leu Val Asn Pro Asn Gly Val Leu Phe Gly Arg Gly Ala Gln
85 90 95

Val Asn Val Gly Gly Leu Val Ala Ser Thr Leu Asp Ile Thr Asp Ala
100 105 110

Glu Phe Asn Gly Asn Ser Ser Arg Tyr Arg Phe Thr Gly Pro Ser Thr
115 120 125

Asn Gly Val Leu Asn His Gly Gly Ala Ile Thr Ala Ala Glu Gly Gly
130 135 140

Ser Ile Ala Leu Leu Gly Ala Gln Val Asp Asn Arg Gly Thr Val Leu
145 150 155 160

Ala Gln Met Gly Gly Val Gly Leu Gly Ala Gly Ser Asp Leu Thr Leu
165 170 175

Asn Phe Asp Gly Asn Lys Leu Leu Asp Ile Arg Val Asp Ala Gly Val
180 185 190

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

Arg Val Leu Met Ala Ala Arg Thr Ala Asn Ala Leu Leu Asn Thr Val
210 215 220

Val Asn Ser Gln Gly Ala Ile Glu Ala Arg Ser Leu Arg Gly Lys Asn
225 230 235 240

eolf-seql

Gly Arg Ile Val Leu Asp Gly Gly Pro Asp Gly Lys Val Met Val Gly
245 250 255

Gly Ala Leu Ser Ala Asn Ala Leu Asn Gly Pro Gly His Gly Gly Thr
260 265 270

Val Glu Val Arg Gly Gln Ala Val Glu Val Ala Leu Gly Thr Gln Val
275 280 285

Asn Thr Leu Ala Ser Asn Gly Leu Asn Gly Thr Trp Lys Ile Ala Ala
290 295 300

Asp Lys Ile Asp Val Arg Pro Ser Ala Val Ser Asp Gly Val Thr Val
305 310 315 320

His Ala Asp Thr Leu Ser Arg Asn Leu Ala Ser Thr Asn Ile Glu Leu
325 330 335

Val Ser Thr Lys Gly Asp Leu Asp Leu Asp Gly Ser Val Asn Trp Ala
340 345 350

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

Gly Arg Leu Asn Ala Ser Gly Ala Lys Ala Gly Leu Glu Leu Lys Ala
370 375 380

Glu Gly Ala Ile Asp Ile Asn Asp Lys Ile Val Leu Gly Gly Ala Gly
385 390 395 400

Ser Ala Leu Ala Met Asp Ala Gly Glu Gly His Arg Val Asn Gly Thr
405 410 415

Ala Ser Val Ser Leu Ala Gly Ala Asn Ala Thr Tyr Val Ser Gly Gly
420 425 430

eolf-seq1

Tyr Tyr Tyr Thr Val Val Gln Asn Leu Ala Gln Leu Gln Ala Ile Asn
435 440 445

Lys Asn Leu Asp Gly Leu Tyr Val Leu Gly Gly Asn Ile Leu Gly Gly
450 455 460

Ser Tyr Tyr Cys Thr Ala Leu Gln Ser Ile Gly Gly Pro Ala Gly Val
465 470 475 480

Phe Ser Gly Thr Leu Asp Gly Leu Gly Asn Ser Ile Gly Asn Leu Ser
485 490 495

Ile Ser Asn Thr Gly Pro Asn Val Gly Leu Phe Ala Arg Ser Ser Gly
500 505 510

Thr Leu Ser Asn Leu Lys Leu Asn Asn Leu Arg Val Ser Asp Asn Thr
515 520 525

Tyr Gly
530

<210> 43

<211> 155

<212> PRT

<213> Pseudomonas aeruginosa

<400> 43

Cys Ser Phe Pro Gly Val Tyr Lys Ile Asp Ile Gln Gln Gly Asn Val
1 5 10 15

Val Thr Gln Asp Met Ile Asp Gln Leu Arg Pro Gly Met Thr Arg Arg
20 25 30

Gln Val Arg Phe Ile Met Gly Asn Pro Leu Ile Val Asp Thr Phe His
35 40 45

Ala Asn Arg Trp Asp Tyr Leu Tyr Ser Ile Gln Pro Gly Gly Gly Arg
50 55 60

eolf-seql

Arg Gln Gln Glu Arg Val Ser Leu Phe Phe Asn Asp Ser Asp Gln Leu
65 70 75 80

Ala Gly Leu Asn Gly Asp Phe Met Pro Gly Val Ser Arg Asp Glu Ala
85 90 95

Ile Leu Gly Lys Glu Gly Ser Thr Thr Val Thr Gln Pro Ala Asp Gln
100 105 110

Gln Lys Pro Glu Ala Gln Lys Glu Glu Pro Pro Lys Pro Gly Ser Thr
115 120 125

Leu Glu Gln Leu Gln Arg Glu Val Asp Glu Ala Gln Pro Val Pro Val
130 135 140

Pro Thr Pro Glu Pro Leu Asp Pro Ser Pro Gln
145 150 155

<210> 44

<211> 461

<212> PRT

<213> Pseudomonas aeruginosa

<400> 44

Cys Ala Val Asn Pro Ala Thr Gly Lys Ser Asp Phe Val Met Met Ser
1 5 10 15

Glu Gln Gln Glu Leu Gly Met Gly Ala Arg Tyr Asn Gln Glu Ile Leu
20 25 30

Lys Gln Phe Pro Arg Tyr Asn Asp Glu Lys Leu Gln Ala Tyr Val Gln
35 40 45

Arg Val Gly Glu Arg Val Ala Arg Ser Ser His Arg Ser Asn Leu Gln
50 55 60

eolf-seq1

Tyr His Phe Thr Val Ile Asp Ser Pro Asp Ile Asn Ala Phe Ala Leu
65 70 75 80

Pro Gly Gly Tyr Ile Tyr Ile His Arg Gly Leu Ile Ala Tyr Leu Gly
85 90 95

Ser Glu Ala Glu Leu Ala Ala Val Leu Gly His Glu Val Gly His Val
100 105 110

Thr Ala Arg His Ser Val Arg Gln Gln Ser Gln Ala Ser Ala Trp Asn
115 120 125

Ile Leu Gly Gln Ala Val Ala Ile Gly Thr Gly Val Gly Ala Ala Gly
130 135 140

Asp Leu Ala Asn Val Leu Gly Thr Ala Phe Val Arg Gly Tyr Gly Arg
145 150 155 160

Asp Met Glu Leu Glu Ala Asp Gly Leu Gly Ala Gln Tyr Leu Ala Arg
165 170 175

Ala Gly Tyr Asp Pro Thr Ala Met Ile Gln Val Val Arg Val Leu Lys
180 185 190

Asn Gln Glu Asp Phe Ala Arg Glu Glu Ala Ala Arg Asn Gly Gln Ala
195 200 205

Val Gln Ala Gly Gly Tyr His Gly Leu Phe Asp Thr His Pro Asp Asn
210 215 220

Asp Arg Arg Leu Gln Glu Val Val Gly Pro Ala Arg Gln Leu Ala Asn
225 230 235 240

Gly Gln Gln Glu Val Gly Arg Glu Val Phe Leu Arg His Leu Glu Gly
245 250 255

eolf-seq1

Met Pro Phe Gly Asp Ser Ala Ser Ala Gly Val Arg Arg Gly Gln Asn
260 265 270

Phe Tyr His Ala Glu Leu Asp Phe Thr Leu Ser Tyr Pro Ala Gly Trp
275 280 285

Lys Ile Leu Asn Gln Pro Ser Ala Leu Leu Gly Tyr Pro Ala Asp Glu
290 295 300

Gln Ser Phe Ile Gly Met Lys Leu Val Pro His Asp Ser Arg Leu Thr
305 310 315 320

Pro Ala Glu Phe Leu Arg Lys Asn Ala Gly Gln Arg Leu Ala Gln Glu
325 330 335

Glu Ser Leu Lys Gln Ala Gly Leu Asn Gly Tyr Thr Ala Val Val Pro
340 345 350

Gly Asn Pro Ala Arg Arg Val Ala Val Ile Tyr Gln Gly Asp Arg Ala
355 360 365

Tyr Leu Phe Val Gly Val Val Lys Val Gly Ser Leu Glu Thr Gln Asp
370 375 380

Asp Arg Phe Leu Ser Val Ile Arg Ser Phe Arg Pro Leu Arg Asp Lys
385 390 395 400

Glu Arg Ala Leu Ala Gln Pro Arg Arg Leu His Leu Val Gln Val Lys
405 410 415

Ala Gly Gln Thr Leu Glu Gln Leu Ala Ala Gly Gly Glu Gly Ser Leu
420 425 430

Ser Asp Ser Val Ala Arg Leu Arg Leu Leu Asn Asp Leu Tyr Pro Ser
435 440 445

eolf-seql

Gly Glu Pro Arg Pro Gly Asp Trp Leu Lys Val Val Arg
450 455 460

<210> 45

<211> 227

<212> PRT

<213> Pseudomonas aeruginosa

<400> 45

Cys Ala Gly Thr Ala Asp Pro Ser Gly Thr Trp Ile Asn Gln Ala Ala
1 5 10 15

Ile Asp Ala Ala Ser Lys Asp Gly Lys Leu Arg Glu Ala Leu Leu Ala
20 25 30

Tyr Gly Pro Asn Leu Glu Trp Lys Leu Asp Ser Lys Ala Gly Glu Ala
35 40 45

Thr Phe Ser Asn Gly Phe Glu Leu Gly Glu Gly Thr Leu Ser Lys Ser
50 55 60

Asp Asp Glu His Trp Lys Val Ala Phe Tyr Gly Asp Asp Asn Gln Glu
65 70 75 80

Ser Leu Glu Leu Asp Gly Lys Glu Leu Ile Gln Gln Ala Ser Ala Asn
85 90 95

Gly Pro Glu Gln Arg Phe Arg Arg Leu Asp Pro Gln Pro Ala Ala Ser
100 105 110

Ser Pro Ala Gly Ser Gly Phe Glu Arg Ala Leu Tyr Gly Ser Tyr Leu
115 120 125

Lys Gly Ser Trp Lys Ile Arg Glu Gly Gln Gly Gln Gly Gly Lys Val
130 135 140

Glu Phe Gln Ala Asn Gly Leu Val Ser Gly Leu Pro Gly Ala Glu Arg
145 150 155 160

eolf-seql

Tyr Ala Leu Cys Leu Ala Gly Asp Cys Ala Ala Met Ser Gly Asp Asn
165 170 175

Asp Ser Ile Trp Leu Gln Gln Gly Asn Arg Gly Arg Glu Leu Leu Phe
180 185 190

Ser Leu Asp Asp Asp Glu Leu Gln Leu Phe Glu Ala Val Asn Thr Ala
195 200 205

Gly Ala Asn Glu Met Pro Ser Tyr Val Pro Gly Lys Arg Val Trp Leu
210 215 220

Leu Glu Arg
225

<210> 46
<211> 891
<212> PRT
<213> Pseudomonas aeruginosa

<400> 46
Ala Asp Gln Phe Asp Cys Lys Val Ser Ala Thr Gly Gly Trp Asp Cys
1 5 10 15

Ser Pro Leu Gln Asn Ala Asn Ala Asn Leu Pro Pro Arg Pro Ala His
20 25 30

Thr Ala Thr Ser Val Ser Thr Ala Ala Ala Gly Ser Ser Val Ser Gly
35 40 45

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

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

eolf-seql

Leu Asp Trp Ile Pro Arg Glu Lys Leu Thr Ala Ala Gln Leu Ala Glu
85 90 95

Ile Gly Pro Tyr Cys Gly Gly Ser Tyr Ile Glu Pro Val Arg Pro Gly
100 105 110

Met Asp Asp Gly Ala Pro Ser Asp Glu Ser Pro Thr Tyr Val Ser Ala
115 120 125

Lys Ala Ser Arg Tyr Glu Gln Glu Lys Gln Ile Ala Thr Leu Ala Gly
130 135 140

Asp Val Val Leu Arg Gln Gly Ser Met Gln Val Glu Gly Asp Glu Ala
145 150 155 160

Asn Leu His Gln Leu Glu Asn Arg Gly Glu Leu Val Gly Asn Val Lys
165 170 175

Leu Arg Asp Lys Gly Met Leu Val Val Gly Asp His Ala Gln Val Gln
180 185 190

Leu Asp Asn Gly Glu Ala Gln Val Asp Asn Ala Glu Tyr Val Ile His
195 200 205

Lys Ala His Ala Arg Gly Ser Ala Leu Tyr Ala Lys Arg Ser Glu Asn
210 215 220

Ala Ile Ile Met Leu Lys Asp Gly Thr Tyr Thr Arg Cys Glu Pro Ser
225 230 235 240

Ser Asn Ala Trp Thr Leu Lys Gly Asn Asn Val Lys Leu Asn Pro Ala
245 250 255

Thr Gly Phe Gly Thr Ala Thr Asn Ala Thr Leu Arg Val Lys Asp Phe
260 265 270

eolf-seql

Pro Val Phe Tyr Thr Pro Tyr Ile Tyr Phe Pro Ile Asp Asp Arg Arg
275 280 285

Gln Ser Gly Phe Leu Pro Pro Ser Phe Ser Ser Thr Ser Asp Thr Gly
290 295 300

Phe Thr Leu Val Thr Pro Tyr Tyr Phe Asn Leu Ala Pro Asn Tyr Asp
305 310 315 320

Ala Thr Leu Tyr Pro Arg Tyr Met Ala Lys Arg Gly Met Met Leu Glu
325 330 335

Gly Glu Phe Arg Tyr Leu Thr His Ser Ser Glu Gly Ile Val Asn Ala
340 345 350

Ala Tyr Leu Asn Asp Lys Asp Asp His Arg Glu Gly Phe Pro Asp Tyr
355 360 365

Ser Lys Asp Arg Trp Leu Tyr Gly Leu Lys Asn Thr Thr Gly Leu Asp
370 375 380

Ser Arg Trp Leu Ala Glu Val Asp Tyr Thr Arg Ile Ser Asp Pro Tyr
385 390 395 400

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

Val Asn Gln Arg Gly Thr Leu Thr Tyr Arg Gly Asp Thr Phe Thr Gly
420 425 430

Arg Leu Asn Ala Gln Ala Tyr Gln Leu Ala Thr Thr Thr Asp Val Thr
435 440 445

Pro Tyr Asp Arg Leu Pro Gln Ile Thr Phe Asp Gly Phe Leu Pro Tyr
450 455 460

eolf-seq1

Asn Pro Gly Gly Met Gln Phe Thr Tyr Gly Thr Glu Phe Val Arg Phe
465 470 475 480

Asp Arg Asp Leu Asp Glu Asn Ile Tyr Phe Asn Asp Asp Gly Ser Ile
485 490 495

Arg Gly Lys Arg Pro Asp Ala Ser Leu Gln Gly Leu Ala Arg Ala Thr
500 505 510

Gly Asp Arg Met His Leu Glu Pro Gly Met Ser Leu Pro Met Thr Arg
515 520 525

Ser Trp Gly Tyr Val Thr Pro Thr Leu Lys Tyr Leu Tyr Thr Lys Tyr
530 535 540

Asp Leu Asp Leu Asp Ser Gln Gly Lys Thr Asp Leu Asn Lys Arg Asp
545 550 555 560

Glu Ser Phe Asp Ser Asn Gln Asp Arg Ser Leu Pro Leu Val Lys Val
565 570 575

Asp Ser Gly Leu Tyr Phe Asp Arg Asp Thr Thr Phe Ala Gly Thr Pro
580 585 590

Phe Arg Gln Thr Leu Glu Pro Arg Ala Met Tyr Leu Tyr Val Pro Tyr
595 600 605

Lys Asp Gln Asp Ser Leu Pro Val Phe Asp Thr Ser Glu Pro Ser Phe
610 615 620

Ser Tyr Asp Ser Leu Trp Arg Glu Asn Arg Phe Thr Gly Lys Asp Arg
625 630 635 640

Ile Gly Asp Ala Asn Gln Leu Ser Leu Gly Val Thr Ser Arg Phe Ile
645 650 655

eolf-seq1

Glu Glu Asn Gly Phe Glu Arg Ala Ser Ile Ser Ala Gly Gln Ile Tyr
660 665 670

Tyr Phe Arg Asp Arg Arg Val Gln Leu Pro Gly Leu Thr Glu Lys Asp
675 680 685

Leu Lys Arg Leu Asn Leu Asp Pro Ser Gly Leu Asp Asn Asp Ser Trp
690 695 700

Arg Ser Pro Tyr Ala Phe Ala Gly Gln Tyr Arg Phe Asn Arg Asp Trp
705 710 715 720

Arg Ile Asn Ser Asp Phe Asn Trp Asn Pro Asn Thr Ser Arg Thr Glu
725 730 735

Ser Gly Ser Ala Ile Phe His Tyr Gln Pro Glu Val Asp Pro Gly Lys
740 745 750

Val Val Asn Val Gly Tyr Arg Tyr Arg Ala Asp Ala Arg Arg Phe Asp
755 760 765

Ser Ser Arg Gly Thr Phe Arg Tyr Gly Asn Glu Asn Asp Ile Ile Lys
770 775 780

Gln His Asp Phe Ser Val Ile Trp Pro Leu Val Pro Gln Trp Ser Val
785 790 795 800

Leu Ala Arg Trp Gln Tyr Asp Tyr Asn Lys Asn Arg Thr Leu Glu Ala
805 810 815

Phe Gly Gly Phe Glu Tyr Asp Ser Cys Cys Trp Lys Leu Arg Leu Ile
820 825 830

Asn Arg Tyr Trp Leu Asp Val Asp Asp Asp Ala Phe Leu Val Gln Ser
835 840 845

eolf-seql

Glu Lys Ala Asp Arg Gly Ile Phe Leu Gln Ile Val Leu Lys Gly Leu
850 855 860

Gly Gly Ile Val Gly Asn Lys Thr Glu Met Phe Leu Asp Lys Gly Ile
865 870 875 880

Gln Gly Tyr Arg Gln Arg Glu Asp Gln Ala Met
885 890

<210> 47

<211> 316

<212> PRT

<213> Pseudomonas aeruginosa

<400> 47

Gly Asn Glu Gly Gly Trp His Pro Pro Lys Pro Asn Pro Gln Ser Asn
1 5 10 15

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

Asn Asn Lys Val Ser Asn Phe Gly Thr Leu Asn Asn Ala Ser Val Ser
35 40 45

Gly Ser Ile Lys Asp Ala Ser Gly Asn Val Gly Val Asn Val Ala Ala
50 55 60

Gly Asp Asn Asn Gln Gln Ala Asn Ala Ala Leu Ala Ser Ala Asp
65 70 75 80

Ala Ser Phe Val Phe Gly Thr Ala Thr Ala Ser Thr Ser Val Leu Gln
85 90 95

Ser Gly Tyr Gly Asn Thr Leu Asn Asn Tyr Ser Asn Pro Asn Thr Ala
100 105 110

Ser Leu Ser Asn Ser Ala Asn Asn Val Ser Gly Asn Leu Gly Val Asn
115 120 125

eolf-seql

Val Ala Ala Gly Asn Phe Asn Gln Gln Lys Asn Asp Leu Ala Ala Ala
130 135 140

Val Ser Asn Gly Gln Tyr Ser Thr Ala Gly Ser Ala Ala Ser Gln Thr
145 150 155 160

Ser Thr Gly Asn Thr Thr Val Asn Ser Ala Asn Tyr Ala Tyr Gly Gly
165 170 175

Thr Tyr Val Ser Leu Lys Leu Asn Ala Asp Gly Ser Tyr Lys Gly Thr
180 185 190

Ser Asp Gln Ile Gly Asp Val Tyr Leu Asp Thr Trp Glu Gly Gln Thr
195 200 205

His Pro Gly Gly Ser Asn Thr Gly His Ile Asp Val Asp Ser Gln Ala
210 215 220

Gln Gly Ala Lys Asp Leu Asn His Asp Gly Gly Ala Phe Ala Phe Lys
225 230 235 240

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

Ala Ile Val Gly Phe Lys Thr Pro Val Thr Asn Asn Ala Ser Leu Ser
260 265 270

Asn Ser Leu Gln Asn Val Ser Gly Asn Val Gly Val Asn Ile Ala Ala
275 280 285

Gly Gly Gly Asn Gln Gln Ser Asn Ser Leu Ser Ile Ala Ala Gly Cys
290 295 300

Ser Ser Cys Pro Ala Gly Gly Glu Ser Leu Gly Phe
305 310 315

eolf-seql

<210> 48

<211> 242

<212> PRT

<213> Pseudomonas aeruginosa

<400> 48

Cys Ser Thr Pro Pro Asn Ala Asn Leu Glu Gln Ala Arg Ser Asn Phe
1 5 10 15

Ser Ala Leu Gln Ser Gln Pro Asp Ala Thr Lys Val Ala Ala Leu Glu
20 25 30

Thr Lys Asp Ala Gly Asp Trp Leu Ala Lys Ala Asp Lys Ala Tyr Gln
35 40 45

Asp Gly Glu Asp Gln Arg Asp Val Asp Gln Leu Ala Tyr Leu Thr Asn
50 55 60

Gln Arg Ile Glu Leu Ala Lys Gln Thr Ile Val Leu Arg Asn Ala Glu
65 70 75 80

Ala Gln Leu Gln Asn Ala Ser Ala Gln Arg Ala Gln Ala Arg Leu Asp
85 90 95

Ala Arg Thr Ala Gln Leu Asp Lys Leu Arg Ser Gln Leu Asn Ala Lys
100 105 110

Gln Thr Ser Arg Gly Thr Met Val Thr Phe Gly Asp Val Leu Phe Asp
115 120 125

Leu Asp Lys Ser Asp Leu Lys Pro Gly Ala Met Arg Asn Ile Gln Gln
130 135 140

Leu Ala Glu Phe Leu Gln Gln Asn Pro Glu Arg Gln Val Ile Val Glu
145 150 155 160

eolf-seql

Gly Tyr Thr Asp Ser Thr Gly Ser Ala Asn Tyr Asn Gln Arg Leu Ser
165 170 175

Glu Arg Arg Ala Asp Ser Val Arg Met Ala Leu Leu Ser Arg Gly Ile
180 185 190

Ser Pro Glu Arg Val Ala Thr Arg Gly Tyr Gly Lys Glu Tyr Pro Val
195 200 205

Ala Ser Asn Gly Thr Ser Ser Gly Arg Ala Met Asn Arg Arg Val Glu
210 215 220

Val Thr Ile Ser Asn Asp Ala Lys Pro Val Ala Pro Arg Ser Ser Val
225 230 235 240

Ser Gly

<210> 49

<211> 426

<212> PRT

<213> Pseudomonas aeruginosa

<400> 49

Cys Gly Asp Asp Lys Lys Ala Glu Ala Pro Ala Thr Pro Ala Ala Ser
1 5 10 15

Thr Gln Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Lys Val Asp Glu
20 25 30

Ala Ala Ala Lys Ala Val Ile Lys Asn Tyr Ala Asp Leu Ala Glu Ala
35 40 45

Thr Phe Ala Asp Ala Leu Ser Thr Ala Lys Asp Leu Gln Lys Ala Ile
50 55 60

Asp Ala Phe Leu Ala Lys Pro Asp Ala Glu Thr Leu Lys Ala Ala Lys
65 70 75 80

eolf-seql

Glu Ala Trp Phe Ala Ala Arg Thr Pro Tyr Ser Gln Ser Glu Ala Phe
85 90 95

Arg Phe Gly Asn Ala Ile Ile Asp Asp Trp Glu Gly Gln Val Asn Ala
100 105 110

Trp Pro Leu Asp Glu Gly Leu Ile Asp Tyr Val Ala Lys Asp Tyr Gln
115 120 125

His Ala Leu Gly Asn Pro Gly Ala Thr Ala Asn Ile Val Ala Asn Thr
130 135 140

Glu Ile Gln Val Gly Glu Asp Lys Ile Asp Val Lys Glu Ile Thr Gly
145 150 155 160

Glu Lys Leu Ala Ser Leu Asn Glu Leu Gly Gly Ser Glu Ala Asn Val
165 170 175

Ala Thr Gly Tyr His Ala Ile Glu Phe Leu Leu Trp Gly Gln Asp Leu
180 185 190

Asn Gly Thr Gly Pro Gly Ala Gly Asn Arg Pro Ala Thr Asp Tyr Ala
195 200 205

Gln Gly Lys Asp Cys Thr Gly Gly His Cys Asp Arg Arg Ala Ala Tyr
210 215 220

Leu Lys Ala Val Thr Asp Leu Leu Val Ser Asp Leu Glu Tyr Met Ala
225 230 235 240

Gly Gln Trp Lys Ala Gly Val Ala Asp Asn Tyr Arg Ala Lys Leu Glu
245 250 255

Ala Glu Pro Val Asp Thr Gly Leu Arg Lys Met Phe Phe Gly Met Gly
260 265 270

eolf-seql

Ser Leu Ser Leu Gly Glu Leu Ala Gly Glu Arg Met Lys Val Ala Leu
 275 280 285

Glu Ala Asn Ser Thr Glu Asp Glu His Asp Cys Phe Ser Asp Asp Thr
 290 295 300

His His Thr Leu Phe Phe Asn Gly Lys Ser Ile Arg Asn Ile Tyr Leu
 305 310 315 320

Gly Glu Tyr Lys Arg Ile Asp Gly Ser Val Val Lys Gly Pro Ser Leu
 325 330 335

Ala Asp Leu Val Ala Lys Ala Asp Ala Ala Ala Asn Asp Thr Leu Lys
 340 345 350

Ala Asp Leu Ala Asp Thr Glu Ala Lys Leu Gln Ala Ile Val Asp Ser
 355 360 365

Ala Glu Lys Asp Gly Val His Phe Asp Gln Met Ile Ala Pro Asp Asn
 370 375 380

Lys Asp Gly Gln Gln Lys Ile Arg Asp Ala Ile Ala Ala Leu Val Lys
 385 390 395 400

Gln Thr Gly Ala Ile Glu Gln Ala Ala Gly Lys Leu Gly Ile Gln Asp
 405 410 415

Leu Lys Pro Asp Asn Ala Asp His Glu Phe
 420 425

<210> 50

<211> 739

<212> PRT

<213> Pseudomonas aeruginosa

<400> 50

eolf-seql

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

Glu Gln Ala Val Asp Ser Val Pro Ser Thr Val Ser Val Gln Thr Arg
20 25 30

Glu Gln Leu Asp Arg Gln Asn Val Asn Asn Ile Lys Glu Leu Val Arg
35 40 45

Tyr Glu Pro Gly Val Ser Val Gly Gly Ala Gly Gln Arg Ala Gly Ile
50 55 60

Thr Gly Tyr Asn Ile Arg Gly Ile Asp Gly Asn Arg Ile Leu Thr Gln
65 70 75 80

Ile Asp Gly Val Glu Leu Pro Asn Asp Phe Phe Ser Gly Pro Tyr Ala
85 90 95

Gln Thr His Arg Asn Tyr Val Asp Pro Asp Ile Val Lys Arg Val Glu
100 105 110

Ile Leu Arg Gly Pro Ala Ser Ala Leu Tyr Gly Ser Asn Ala Ile Gly
115 120 125

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

Gly Lys Asp Val Gly Ala Arg Leu Lys Ala Gly Tyr Glu Ser Ala Ser
145 150 155 160

His Ser Trp Leu Thr Ser Ala Thr Val Ala Gly Arg Ala Asp Asp Phe
165 170 175

Asp Gly Leu Leu His Tyr Gly Tyr Arg Gln Gly His Glu Thr Glu Ser
180 185 190

eolf-seql

Asn Gly Gly His Gly Gly Thr Gly Leu Ser Arg Ser Glu Ala Asn Pro
195 200 205

Glu Asp Ala Asp Ser Tyr Ser Leu Leu Gly Lys Leu Gly Trp Asn Tyr
210 215 220

Ala Glu Gly Ser Arg Phe Gly Leu Val Phe Glu Lys Tyr Lys Ser Asp
225 230 235 240

Val Asp Thr Asp Gln Lys Ser Ala Tyr Gly Gly Pro Tyr Asp Lys Gly
245 250 255

Lys Pro Ala Ile Pro Pro Ser Met Leu Pro Gly Gly Met Tyr Gln Trp
260 265 270

Arg Lys Gly Asn Asp Thr Leu Thr Arg Glu Arg Tyr Gly Leu Glu His
275 280 285

His Phe Leu Leu Asp Ser Gln Val Ala Asp Arg Ile Gln Trp Ser Leu
290 295 300

Asn Tyr Gln Leu Ala Lys Thr Asp Gln Ala Thr Arg Glu Phe Tyr Tyr
305 310 315 320

Pro Ile Thr Arg Lys Val Leu Arg Thr Arg Asp Thr Thr Tyr Lys Glu
325 330 335

Arg Leu Trp Val Phe Asp Ser Gln Leu Asp Lys Ser Phe Ala Ile Gly
340 345 350

Glu Thr Glu His Leu Leu Ser Tyr Gly Ile Asn Leu Lys His Gln Lys
355 360 365

Val Thr Gly Met Arg Ser Gly Thr Gly Thr Asn Leu Asp Thr Gly Ala
370 375 380

eolf-seq1

Asp Ser Pro Arg Asp Ala Leu Glu Arg Ser Ser Asp Phe Pro Asp Pro
385 390 395 400

Thr Val Lys Thr Tyr Ala Leu Phe Ala Gln Asp Ser Ile Ser Trp Asn
405 410 415

Asp Trp Thr Phe Thr Pro Gly Leu Arg Tyr Asp Tyr Thr Arg Met Glu
420 425 430

Pro His Ile Thr Asp Glu Phe Leu Arg Thr Met Lys Gln Ser Gln Asn
435 440 445

Thr Ala Val Asp Glu Ser Asp Lys Lys Trp His Arg Val Ser Pro Lys
450 455 460

Phe Gly Val Thr Tyr Asp Phe Ala Gln His Tyr Thr Trp Tyr Gly Gln
465 470 475 480

Tyr Ala Gln Gly Phe Arg Thr Pro Thr Ala Lys Ala Leu Tyr Gly Arg
485 490 495

Phe Glu Asn Leu Gln Ala Gly Tyr His Ile Glu Pro Asn Pro Asn Leu
500 505 510

Lys Pro Glu Lys Ser Gln Ser Phe Glu Thr Gly Leu Arg Gly Lys Phe
515 520 525

Asp Glu Gly Ser Phe Gly Val Ala Val Phe Tyr Asn Lys Tyr Arg Asp
530 535 540

Phe Ile Asp Glu Asp Ala Leu Asn Thr Asp Ser Thr Gly Gly Asn Gly
545 550 555 560

Gln Thr Phe Gln Ser Asn Asn Ile Glu Arg Ala Val Ile Lys Gly Val
565 570 575

eolf-seq1

Glu Leu Lys Gly Arg Leu Glu Leu Gly Ala Phe Gly Ala Pro Gln Gly
580 585 590

Leu Tyr Thr Gln Gly Ser Val Ala Tyr Ala Tyr Gly Arg Asn Lys Asp
595 600 605

Asn Gly Glu Pro Ile Asn Ser Val Asn Pro Leu Thr Gly Val Phe Gly
610 615 620

Leu Gly Tyr Asp Glu Ala Asp Gly Asn Tyr Gly Gly Leu Leu Ser Trp
625 630 635 640

Thr Leu Val Lys Arg Lys Asp Arg Val Asp Asp Ser Thr Phe His Thr
645 650 655

Pro Asp Gly Thr Ala Ser Gln Phe Lys Thr Pro Gly Phe Gly Val Leu
660 665 670

Asp Leu Ser Ala Tyr Tyr Arg Leu Ser Lys Asp Leu Thr Leu Asn Ala
675 680 685

Gly Leu Tyr Asn Leu Thr Asp Lys Lys Tyr Trp Leu Trp Asp Asp Val
690 695 700

Arg Gly Tyr Asp Ser Val Gly Glu Ala Ser Ala Leu Ala Pro Ala Asn
705 710 715 720

Ile Asp Arg Leu Ser Gln Pro Gly Arg Asn Phe Ala Val Asn Leu Val
725 730 735

Trp Asp Ile

<210> 51

<211> 1069

<212> PRT

<213> Pseudomonas aeruginosa

eolf-seql

<400> 51

Cys Leu Leu Gly Phe Leu Leu Ile Pro Gly Ile Gly Leu Arg Val Ala
1 5 10 15

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

Ile Glu Phe Asn Pro Phe Ser Leu Glu Leu Thr Leu Trp Gly Leu Arg
35 40 45

Leu Gly Glu Glu Lys Asn Pro Gln Leu Ala Phe Arg Arg Leu Tyr Ala
50 55 60

Asn Leu Gln Leu Asp Ser Leu Trp Lys Arg Gln Leu His Leu Ala Asp
65 70 75 80

Val Glu Leu Glu Gly Pro His Thr Glu Leu Leu Phe Gly Glu Lys Gly
85 90 95

Gln Leu Asn Leu Ala Ser Leu Phe Arg Ile Pro Pro Ser Glu Ser Pro
100 105 110

Glu Pro Glu Gln Pro Ser Asp Pro Phe Pro Leu Arg Ile Asp Arg Ile
115 120 125

Gln Leu Ala Glu Gly Ser Leu His Phe Gln Asp Leu Arg Pro Ser Glu
130 135 140

Pro Val Asp Phe Ser Phe Asp Pro Leu Gly Phe Glu Leu His Asn Leu
145 150 155 160

Ser Thr Leu Pro Asp Asp Gly Ala Lys Met Thr Leu Val Ala Thr Gly
165 170 175

Pro Asn Gly Gly Arg Leu Asp Trp Glu Gly Asp Leu Thr Leu Val Pro
180 185 190

eolf-seql

Ile Thr Ser Arg Gly His Leu Ser Val Lys Asp Ile Gln Leu Lys Ala
195 200 205

Trp Trp Pro Tyr Val Arg Asp Asn Ala Pro Leu Val Leu Glu Asn Gly
210 215 220

Val Val Ser Leu Ser Ser Asp Tyr Arg Leu Asp Leu Ser Lys Asp Thr
225 230 235 240

Gln Leu Leu Leu Asp Lys Ala Ala Leu Lys Leu Ala Asp Phe Ser Ile
245 250 255

Asn Ser Pro Gln Gly Lys Pro Leu Ala Lys Leu Ala Ser Leu Asp Val
260 265 270

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

Val Arg Ser Gln Gly Leu Glu Ala Trp Ala Ala Arg Glu Lys Asp Gly
290 295 300

Gln Leu Asp Trp Gln Lys Leu Phe Ala Asp Phe Thr Pro Pro Pro Arg
305 310 315 320

Lys Ala Pro Ala Pro Lys Pro Ala Glu Asn Thr Asp Pro Ala Ala Ala
325 330 335

Pro Thr Asp Ala Ala Lys Thr Thr Ser Glu Pro Ala Thr Asp Gly Ala
340 345 350

Ala Lys Ala Ala Ala Ile Ala Ser Gly Glu Ala Ser Lys Asp Arg Pro
355 360 365

Ala Glu Lys Asp Ala Ser Val Ala Glu Thr Glu Arg Ala Thr Asp Asp
370 375 380

eolf-seql

Lys Glu Ser Ala Lys Ala Ala Glu Gly Ala Ala Asp Lys Val Ala Lys
385 390 395 400

Gln Glu Thr Ser Lys Ala Pro Lys Thr Gly Lys Ala Thr Gly Gln Glu
405 410 415

Thr Ala Lys Thr Ala Glu Ile Asp Lys Ala Ala Ser Asp Ser Pro Gln
420 425 430

Gln Leu Ala Asp Thr Ala Lys Thr Pro Pro Pro Glu Ser Thr Lys Ala
435 440 445

Ser Ala Glu Thr Pro Ala Lys Pro Trp Asn Ile Val Leu Arg Asp Ala
450 455 460

Gln Leu Arg Gly Tyr Lys Ala His Leu Val Asp Arg Gln Pro Ala Thr
465 470 475 480

Glu Val Pro Leu Glu Val Gly Pro Leu Asp Leu Asp Leu Gln Asn Val
485 490 495

Asp Ser Leu Gly Lys Thr Pro Phe Asp Leu Lys Leu Lys Thr Gly Leu
500 505 510

Gly Asn Arg Gly Gln Val Gln Ala Ser Gly Gln Val Val Leu Asp Pro
515 520 525

Val Ser Ala Arg Leu Lys Val Ser Thr Arg Asp Ile Asp Leu Arg Val
530 535 540

Ala Gln Ala Tyr Ile Ser Pro Phe Ile Arg Leu Glu Leu Arg Ser Gly
545 550 555 560

Phe Leu Gly Ser Glu Leu Ala Val Asp Leu Lys Ser Val Glu Pro Leu
565 570 575

eolf-seql

Ala Phe Ser Val Asp Gly Ser Ala Glu Val Ser Gln Leu His Thr Leu
580 585 590

Asp Thr Ile Lys Asp Arg Asp Phe Val Lys Trp Thr Lys Leu Thr Leu
595 600 605

Asn Gly Leu Ala Tyr Arg His Glu Asp Ser Leu Ser Ile Gln Ser Val
610 615 620

Ser Phe Glu Glu Pro Tyr Ala Arg Phe Ile Ile Asn Glu Asp Arg Ser
625 630 635 640

Thr Asn Val Ser Glu Leu Ile Ile Pro Gln Pro Ala Ser Ser Ser Gly
645 650 655

Lys Thr Ala Ala Glu Ser Lys Asn Ala Pro Ala Ser Lys Pro Leu Gly
660 665 670

Ile His Ile Gly Gly Val Arg Ile Asn Asn Gly Ser Ala Asn Phe Ala
675 680 685

Asp Leu Thr Leu Met Pro Pro Phe Gly Thr Ala Ile Gln Gln Leu Ser
690 695 700

Gly Glu Val Gly Thr Leu Asp Thr Arg Asn Ser Gln Pro Ala Lys Val
705 710 715 720

Asp Ile Lys Gly Lys Val Asp Lys Tyr Ala Pro Val Thr Ile Ala Gly
725 730 735

Glu Leu Asp Pro Phe Asp Pro Leu Lys Lys Leu Asp Ile Thr Thr Ser
740 745 750

Phe Lys Arg Val Glu Leu Thr Thr Leu Thr Pro Tyr Ser Gly Lys Phe
755 760 765

eolf-seql

Ala Gly Tyr Arg Ile Arg Lys Gly Arg Leu Asn Leu Asp Leu His Tyr
770 775 780

Gln Ile Glu Arg Ser Gln Leu Lys Ala Glu Asn Lys Val Leu Leu Glu
785 790 795 800

Gly Leu Gln Leu Gly Glu Lys Val Asp Ser Pro Asp Ala Val Asp Leu
805 810 815

Pro Val Lys Leu Ala Val Ala Leu Leu Lys Asp Thr Lys Gly Asn Ile
820 825 830

Asp Ile Gln Leu Pro Val Ala Gly Asp Leu Asn Asn Pro Glu Phe Ser
835 840 845

Val Met Pro Ile Val Trp Gln Thr Leu Arg Asn Leu Val Leu Arg Ala
850 855 860

Val Gln Ala Pro Phe Lys Phe Ile Ala Gly Leu Ala Ala Gly Gly Asn
865 870 875 880

Glu Asp Leu Gly Thr Val Pro Phe Ala Ala Gly Ser Asp Glu Leu Thr
885 890 895

Pro Glu Ala Gln Ala Asn Leu Asp Lys Leu Ala Asp Ala Leu Lys Glu
900 905 910

Arg Pro Ala Leu Arg Leu Glu Val Glu Gly Val Ala Ser Ala Ala Ala
915 920 925

Asp Gly Pro Ser Ile Gly Ala Lys Arg Leu Glu Leu Glu Tyr Gln Asn
930 935 940

Thr Tyr Tyr Arg Met Leu Gln Arg Arg Gly Asp Lys Val Pro Ser Asp
945 950 955 960

eolf-seql

Ala Lys Gln Leu Glu Val Pro Glu Asn Met Gln Ala Pro Leu Leu Glu
 965 970 975

Gly Ile Tyr Arg Thr Arg Leu Lys Gln Gln Pro Pro Ala Glu Trp Lys
 980 985 990

Glu Leu Asp Ser Asp Glu Arg Thr Ala Lys Met Arg Glu Ala Val Ile
 995 1000 1005

Ala Ser Trp Ala Lys Ser Gln Val Leu Leu Arg Gln Ile Gly Gln
 1010 1015 1020

Ala Arg Ala Thr Arg Ile Lys Asp Tyr Leu Val Glu Lys Gly Gln
 1025 1030 1035

Leu Pro Asp Asp Arg Ile Tyr Leu Ile Asp Val Ser Phe Ala Glu
 1040 1045 1050

Gly Glu Asp Lys Gly Asn Val Asp Thr Gln Leu His Leu Asp Ser
 1055 1060 1065

Glu

<210> 52

<211> 146

<212> PRT

<213> Pseudomonas aeruginosa

<400> 52

Glu Met Lys Ile Ala Val Leu Asn Tyr Gln Met Ala Leu Leu Glu Ser
 1 5 10 15

Asp Ala Ala Lys Gln Tyr Ala Val Asp Ala Glu Lys Lys Phe Gly Pro
 20 25 30

eolf-seq1

Gln Leu Asn Lys Leu Lys Asn Leu Glu Arg Asp Ala Lys Ala Leu Gln
35 40 45

Asp Lys Leu Val Ser Asn Gly Ser Lys Met Ser Gln Gly Asp Arg Glu
50 55 60

Lys Ala Glu Leu Asp Phe Lys Gln Lys Ala Arg Asp Phe Gln Phe Gln
65 70 75 80

Ser Lys Glu Leu Asn Glu Ser Lys Ala Ala Ala Asp Arg Asp Met Leu
85 90 95

Lys Lys Leu Lys Pro Lys Leu Asp Gln Ala Val Glu Glu Thr Ile Lys
100 105 110

Lys Gly Gly Tyr Asp Met Val Ile Glu Arg Gly Ala Val Val Asp Val
115 120 125

Lys Pro Gln Tyr Asp Ile Thr Arg Gln Val Ile Glu Arg Met Asn Gln
130 135 140

Leu Arg
145

<210> 53

<211> 187

<212> PRT

<213> Pseudomonas aeruginosa

<400> 53

Cys Ser Asp Ser Ala Pro Ser Ser Glu Glu Ile Ala Arg Leu Leu Ala
1 5 10 15

Glu Arg Gly Phe Asp Lys Pro Ala Cys Ala Ser Ser Thr Leu Phe Lys
20 25 30

Thr Phe Pro Val Thr Leu Ser Asp Ser Phe Ser Gly Pro Gly Pro Ala
35 40 45

eolf-seql

Lys Gly Asn Ala Ala Val Tyr Asp Ala Leu Val Gly Val Gly Leu Leu
50 55 60

Arg Arg Asp Gly Asp Ser Tyr Asp Leu Thr Pro Ala Gly Arg Glu Asp
65 70 75 80

Tyr Lys Pro Glu Ser Lys Ala Phe Cys Tyr Ser Ser Gly Phe Asp Val
85 90 95

Ser Val Arg Ser Val Asp Pro Ala Lys Pro Asp Asp Tyr Gly Pro Ala
100 105 110

Val Glu Lys Gly Trp Leu Val Thr Val Glu Val Lys Pro Arg Glu Val
115 120 125

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

Thr Leu Gln Gln Ile Thr Gln Pro Gln Val Gly Gln Val Ser Leu Val
145 150 155 160

Lys Pro Arg Gly Glu Glu Gly Tyr Lys Leu Val Asn Thr Arg Phe Ser
165 170 175

Pro Arg Gln Gly Phe His Phe Asn Gln Ala Trp
180 185

<210> 54

<211> 427

<212> PRT

<213> Pseudomonas aeruginosa

<400> 54

Gly Asp Gly Gly Phe Val Glu Asp Ser Glu Leu Gln Phe Leu Ala Arg
1 5 10 15

eolf-seql

Thr	Tyr	Tyr	Phe	Asn	Arg	Asp	Tyr	Arg	Asp	Ser	Pro	Asn	Asn	Ala	Gly
			20					25					30		
Arg	Asn	Arg	Phe	Lys	Pro	Arg	Ser	Glu	Arg	Asn	Gly	Tyr	Arg	Glu	Glu
	35						40					45			
Ala	Thr	Gln	Gly	Leu	Arg	Leu	Gln	Phe	Ala	Ser	Gly	Tyr	Thr	Pro	Gly
	50					55					60				
Ser	Leu	Gly	Phe	Gly	Leu	Asp	Ala	His	Ala	Met	Leu	Gly	Leu	Gln	Leu
65					70					75				80	
Asp	Ser	Gly	Gly	Gly	Arg	Thr	Gly	Thr	Gly	Asn	Leu	Pro	Val	Gly	Ala
				85					90					95	
Asp	Gly	His	Pro	Asp	His	Arg	Tyr	Gly	Lys	Val	Gly	Gly	Ala	Leu	Arg
			100					105					110		
Leu	Arg	His	Gly	Glu	Thr	Arg	Leu	Lys	Tyr	Gly	Gln	Thr	Thr	Thr	Ser
		115					120					125			
Ala	Pro	Val	Phe	Ala	Ala	Ser	Ser	Asn	Arg	Thr	Leu	Ala	Gly	Met	Ala
	130					135					140				
Tyr	Gly	Leu	Leu	Leu	Glu	Asp	Arg	Ser	Phe	Asp	Gly	Leu	Leu	Leu	Glu
145					150					155					160
Gly	Gly	Arg	Phe	Thr	Ala	Ala	Ser	Gly	Pro	Gly	Glu	Ser	Lys	Val	Arg
				165					170					175	
Gly	Asp	Ile	Ser	Thr	Val	Tyr	Gly	Arg	Leu	Gly	Ala	Tyr	Pro	Val	Arg
			180					185					190		
Leu	Asp	Ala	Val	Gly	Phe	Leu	Gly	Gly	Gln	Trp	Gln	Ala	Thr	Glu	Arg
		195					200					205			

eolf-seql

Leu Gln Leu Ser Leu Tyr Ala Ser Arg Phe Asp Asp Ile Trp Gln Gln
 210 215 220

Ala Tyr Phe Gly Ala Ser His Arg Gln Pro Leu Gly Gly Glu Arg Ala
 225 230 235 240

Leu Arg Val Asp Leu Asp Ala Tyr Arg Thr Arg Asp Ser Gly Gln Ser
 245 250 255

Arg Phe Gly Arg Ile Asp Thr Leu Thr Ser Ser Leu Ala Leu Gly Tyr
 260 265 270

Glu His Gly Pro Gln Arg Ile Thr Leu Ala Tyr Gln Arg Val His Gly
 275 280 285

Glu Gln Pro Phe Asp Tyr Met Ala Phe Gly Asp Gly Arg Ser Ser Ala
 290 295 300

Ser Met Val Leu Ala Asn Ser Val Gly Tyr Ser Asp Phe Asn Gly Pro
 305 310 315 320

Gly Glu Arg Ser Trp Gln Leu Arg Tyr Asp Leu Asp Leu Gly Ala Leu
 325 330 335

Gly Leu Pro Gly Leu Ser Leu His Ala Leu His Ala Arg Gly Arg Ala
 340 345 350

Gly Ala Ser Ala Ser Ser Ala Ala Glu Ser Ile Tyr Ala Gly Leu Tyr
 355 360 365

Gly Arg Asp Gly Arg His Arg Glu Asn Asp Leu Gly Phe Ala Tyr Arg
 370 375 380

Val Lys Ala Gly Pro Leu Ala Gly Leu Ala Leu Arg Ala Ser Gln Ala
 385 390 395 400

eolf-seql

Trp His Arg Gly Asn Ala Ser Tyr Leu Asp Gly Asp Ile Asp Glu Thr
 405 410 415

Arg Leu Val Val Asp Tyr Ser Arg Ser Ile Trp
 420 425

<210> 55

<211> 233

<212> PRT

<213> Pseudomonas aeruginosa

<400> 55

Ala Leu Asp Asp Gln Gln Arg Ala Leu Gln Gln Leu Gln Val Gln Ala
 1 5 10 15

Cys Arg Ala Val Gly Ser Leu Leu Leu Arg Gly Glu Gly Phe Gln
 20 25 30

Glu Gln His Ala Ala Gln Leu Glu Lys Asp Leu Ala Ser Leu Asp Arg
 35 40 45

Ala Leu Ala Ala Ala Pro Glu Gly Val Leu Leu Arg Gln Gly Glu Lys
 50 55 60

Thr Leu Val Ala Arg Ile Arg Glu Gly Ala Ala Tyr Gly Pro Arg Glu
 65 70 75 80

Glu Asp Leu Pro Trp Arg Tyr Pro Gln Gln Leu Ser Arg Ala Leu Arg
 85 90 95

Asp Phe Leu Asn Leu Val Glu Arg Gln Val Pro Pro Pro Pro Gly
 100 105 110

Gln Pro Leu Pro Leu Trp Gln Leu Pro Val Arg Val Glu Tyr Leu Ser
 115 120 125

Leu Gln Tyr Leu Ala Arg Ala Tyr Leu Gly Gly Leu Glu Thr Ala Arg
 130 135 140

eolf-seql

Glu Gln Pro Arg Asp Tyr Leu Gly Gln Asp Glu Ser Val Leu Val Pro
145 150 155 160

Leu Ile Asp Arg Arg Ile Ala Leu Leu Val Ala Gln Ser Ala Asn Pro
165 170 175

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

Leu Arg Asp Leu Asn Ser Lys Ser Ser Ala Leu Val Ser Ala Ser Gly
195 200 205

Arg Pro Trp Ala Pro Ile Ile Val Asp Arg His Ala Arg Ala Leu Ser
210 215 220

Glu Ser Leu Met Arg Leu Ser Ala Glu
225 230

<210> 56
<211> 183
<212> PRT
<213> Pseudomonas aeruginosa

<400> 56
Cys Gly Tyr Asn Ala Met Gln Ala Gly Asp Glu Gln Val Lys Ala Ala
1 5 10 15

Trp Ser Glu Val Leu Asn Gln Tyr Gln Arg Arg Ala Asp Leu Val Pro
20 25 30

Asn Leu Val Ser Thr Val Lys Gly Tyr Ala Ser His Glu Ala Ser Val
35 40 45

Leu Thr Gln Val Thr Glu Ala Arg Ala Lys Val Gly Ser Val Gln Leu
50 55 60

eolf-seq1

Asn Ala Asp Gln Leu Asp Asp Glu Gln Ala Val Gln Arg Phe Gln Lys
65 70 75 80

Ala Gln Gly Glu Leu Ser Ser Ala Leu Ser Arg Leu Leu Val Val Thr
85 90 95

Glu Asn Tyr Pro Gln Leu Lys Ala Asp Gly Leu Phe Lys Asp Leu Leu
100 105 110

Thr Gln Leu Glu Gly Thr Glu Asn Arg Ile Ala Val Ala Arg Gly Arg
115 120 125

Tyr Val Lys Ser Val Gln Glu Tyr Asn Val Leu Leu Arg Gln Phe Pro
130 135 140

Gly Val Ile Thr Ala Lys Leu Phe Gly Tyr Lys Pro Lys Ala Asn Phe
145 150 155 160

Ser Val Glu Asn Glu Ala Ala Ile Ser Thr Ala Pro Lys Val Asp Phe
165 170 175

Gly Asn Pro Gln Pro Ala Gln
180

<210> 57

<211> 132

<212> PRT

<213> Pseudomonas aeruginosa

<400> 57

Cys Ala Val Tyr Asp Tyr Asp Tyr Asp Asp Gly Asp Trp Arg His Tyr
1 5 10 15

Arg Gly Gln Pro Tyr Gly Tyr Ala Tyr Glu Val Pro Arg Tyr Arg Val
20 25 30

Tyr Asp Asp Gly Trp Arg Ser Glu Arg Arg Tyr Tyr Ser Thr Arg Tyr
35 40 45

eolf-seql

Tyr Asp Gln Arg Tyr Tyr Pro Ala Pro Arg Arg Tyr Asp Gly His Arg
50 55 60

Asp Tyr Arg Arg Glu Gln Tyr Arg Tyr Gln Gln Arg Tyr His Glu Ser
65 70 75 80

Arg Pro Ala His Arg Gly Glu Arg His Pro Gly Asn Trp Gln Arg Gly
85 90 95

Gly Gln Pro Gln Trp Arg Gly His Ser Pro Gln Arg Trp Gln Gln His
100 105 110

Gly Arg Gln Asp Arg Pro Gly His Gln Gly Gln Gln Gly Gly Thr Pro
115 120 125

Arg Trp Arg Asn
130

<210> 58

<211> 682

<212> PRT

<213> Pseudomonas aeruginosa

<400> 58

Ser Asp Leu Leu Ser Ile Gly Leu Ser Gly Leu Gly Thr Ser Gln Thr
1 5 10 15

Trp Leu Thr Val Thr Gly His Asn Ile Thr Asn Val Lys Thr Pro Gly
20 25 30

Tyr Ser Arg Gln Asp Ala Ile Gln Gln Thr Arg Ile Pro Gln Phe Ser
35 40 45

Gly Ala Gly Tyr Met Gly Ser Gly Ser Gln Ile Val Asp Val Arg Arg
50 55 60

eolf-seql

Leu Ala Ser Asp Phe Leu Thr Gly Gln Leu Arg Asn Ala Thr Ser Gln
65 70 75 80

Asn Ser Glu Leu Asn Ala Phe Leu Gly Gln Ile Asp Gln Leu Asn Ser
85 90 95

Leu Leu Ala Asp Asn Thr Thr Gly Val Ser Pro Ala Met Gln Arg Phe
100 105 110

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

Arg Glu Ala Val Leu Ala Gln Ala Gln Gly Leu Ser Lys Thr Phe Asn
130 135 140

Thr Leu Tyr Asp Gln Leu Asp Lys Gln Asn Ser Leu Ile Asn Gln Gln
145 150 155 160

Leu Gly Ala Leu Thr Ser Gln Val Asn Asn Leu Ser Gln Ser Val Ala
165 170 175

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

Asn Asp Leu Leu Asp Ala Arg Asp Glu Ala Val Arg Lys Leu Ser Glu
195 200 205

Met Val Gly Val Thr Ala Val Thr Gln Asp Asp Asn Ser Val Ser Leu
210 215 220

Phe Ile Gly Ser Gly Gln Pro Leu Val Val Gly Asn Thr Val Ser Thr
225 230 235 240

Leu Ser Val Val Pro Gly Leu Asp Asp Pro Thr Arg Tyr Gln Val Gln
245 250 255

eolf-seq1

Leu Thr Leu Gly Asp Ser Thr Gln Asn Val Thr Arg Leu Val Ser Gly
260 265 270

Gly Gln Met Gly Gly Leu Leu Ala Tyr Arg Asp Thr Val Leu Asp Ser
275 280 285

Ser Tyr Asn Lys Leu Gly Gln Leu Ala Leu Thr Phe Ala Asp Thr Val
290 295 300

Asn Lys Gln Leu Gly Gln Gly Leu Asp Leu Ala Gly Lys Ala Gly Ala
305 310 315 320

Asn Leu Phe Gly Asp Ile Asn Asp Pro Asp Ile Thr Ala Leu Arg Val
325 330 335

Leu Ala Lys Asn Gly Asn Thr Gly Asn Val His Ala Asn Leu Asn Ile
340 345 350

Thr Asp Thr Ser Lys Leu Asn Ser Ser Asp Phe Arg Leu Asp Phe Asp
355 360 365

Gly Thr Asn Phe Thr Ala Arg Arg Leu Gly Asp Asp Ala Ser Met Gln
370 375 380

Val Thr Val Ser Gly Thr Gly Pro Tyr Thr Leu Ser Phe Lys Asp Ala
385 390 395 400

Asn Gly Val Asp Gln Gly Phe Ser Val Thr Leu Asp Gln Leu Pro Ala
405 410 415

Ala Gly Asp Arg Phe Thr Leu Gln Pro Thr Arg Arg Gly Ala Ser Asp
420 425 430

Ile Glu Thr Thr Leu Lys Asn Ala Ser Gln Leu Ala Phe Ala Gly Ser
435 440 445

eolf-seq1

Ala Arg Ala Glu Ala Thr Thr Asn Asn Arg Gly Ser Gly Ala Ile Gly
450 455 460

Gln Pro Asn Leu Val Asp Gly Pro Ser Pro Ile Asp Pro Ala Val Leu
465 470 475 480

Gln Asn Ala Phe Gly Ala Asn Gly Leu Pro Leu Ser Ala Thr Val Ser
485 490 495

Ala Asp Gly Lys Thr Tyr Thr Met Thr Ser Pro Leu Pro Ala Gly Trp
500 505 510

Ser Tyr Val Asp Lys Asp Gly Asn Ala Leu Pro Gly Ser Pro Thr Leu
515 520 525

Asn Ser Gly Thr Ser Asn Ser Val Arg Met Ala Tyr Thr Asp Pro Gly
530 535 540

Ser Gly Gln Thr Tyr Thr Tyr Glu Phe Asn Leu Ser Asn Val Pro Gln
545 550 555 560

Thr Gly Asp Ser Phe Thr Leu Ser Phe Asn Lys Asp Gly Ile Ala Asp
565 570 575

Asn Arg Asn Ala Leu Asn Leu Asn Ala Leu Gln Thr Lys Pro Thr Val
580 585 590

Gly Gly Thr Asp Ser Thr Gly Ser Thr Tyr Asn Asp Ala Tyr Gly Gly
595 600 605

Leu Val Glu Arg Val Gly Thr Leu Thr Ala Gln Ala Arg Ala Ser Ala
610 615 620

Asp Ala Ser Gln Thr Val Leu Lys Gln Ala Gln Asp Ser Arg Asp Ser
625 630 635 640

eolf-seq1

Leu Ser Gly Val Ser Leu Asp Glu Glu Ala Ala Asn Leu Ile Gln Phe
645 650 655

Gln Gln Tyr Tyr Ser Ala Ser Ala Gln Val Ile Gln Val Ala Arg Ser
660 665 670

Leu Phe Asp Thr Leu Ile Gly Ala Phe Arg
675 680

<210> 59

<211> 217

<212> PRT

<213> Pseudomonas aeruginosa

<400> 59

Gln Val Met Ala Arg Asp Leu Gly Asp Phe Glu Leu Lys Leu Ala Thr
1 5 10 15

Ser Pro Thr Arg Ser Met Ala Gln Gly Leu Val Thr Pro Gly Ser Ser
20 25 30

Gly Ser Phe His Gly Gly Leu Asp Leu Ser His Glu Ser Gly Trp Tyr
35 40 45

Ile Gly Asn Trp Thr Ser Asn Leu Asp Pro Gly Lys Pro Thr Glu Ile
50 55 60

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

Glu Met Gly Leu Ile Arg Tyr Ser Arg Pro Glu Gln Pro Ala Asn Asp
85 90 95

Ala Ala Glu Leu Tyr Gly Gly Leu Ser Ile Phe Gly Ser Arg Leu Gly
100 105 110

Ala Ala Leu Ser Ser Asp Pro Gly Arg Asn Asp Thr Thr Leu Phe Ala
115 120 125

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Asp Leu Gly Val Asn Pro Pro Phe Gly Phe Asp Val Thr Leu Lys Tyr
130 135 140

Gly Asn His Arg Leu Asp Asn Pro Ala Ser Leu Ser Gly Gly Gly Tyr
145 150 155 160

Val Ser Val Phe Asn Asp Trp Ser Val Asn Leu Ser Arg Pro Trp Leu
165 170 175

Gly Ile Asp Leu Asn Leu Ser Tyr Ser Gly Thr Ser Leu Thr Gly Ser
180 185 190

Asp Cys Ser Ala Tyr Ser Gly His Asn Ser Tyr Cys Asp Thr Thr Phe
195 200 205

Met Leu Lys Ala Ser Arg Pro Phe Phe
210 215

<210> 60

<211> 151

<212> PRT

<213> Pseudomonas aeruginosa

<400> 60

Cys Ala Ser Asn Pro Asn Asp Leu Pro Asp Phe Pro Glu His Glu Tyr
1 5 10 15

Ala Ala Thr Gln Gln Val Gly Glu Gly Val Ile Asn Gly Asp Leu Tyr
20 25 30

Leu Thr Ser Ala Ser Gly Ala Ile Gln Lys Gly Thr Asn Thr Lys Val
35 40 45

Ala Leu Glu Pro Ala Thr Ser Tyr Met Lys Ala Tyr Tyr Ala Lys Phe
50 55 60

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Gly Asn Leu Asp Ala Ala Lys Arg Asp Pro Asp Val Gln Pro Pro Val
65 70 75 80

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

Asn Gly Arg Phe Asp Phe Asp His Ile Pro Asn Gly Thr Tyr Tyr Ile
100 105 110

Ser Ser Glu Leu Thr Trp Ser Ala Gln Ser Asp Gly Lys Thr Ile Thr
115 120 125

Glu Gly Gly Thr Val Thr Lys Leu Val Thr Val Ser Gly Ser Gln Pro
130 135 140

Gln Lys Val Leu Leu Thr Arg
145 150

<210> 61
<211> 326
<212> PRT
<213> Pseudomonas aeruginosa

<400> 61
Gln Gly Gln Asn Ser Val Glu Ile Glu Ala Phe Gly Lys Arg Tyr Phe
1 5 10 15

Thr Asp Ser Val Arg Asn Met Lys Asn Ala Asp Leu Tyr Gly Gly Ser
20 25 30

Ile Gly Tyr Phe Leu Thr Asp Asp Val Glu Leu Ala Leu Ser Tyr Gly
35 40 45

Glu Tyr His Asp Val Arg Gly Thr Tyr Glu Thr Gly Asn Lys Lys Val
50 55 60

His Gly Asn Leu Thr Ser Leu Asp Ala Ile Tyr His Phe Gly Thr Pro
65 70 75 80

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Gly Val Gly Leu Arg Pro Tyr Val Ser Ala Gly Leu Ala His Gln Asn
85 90 95

Ile Thr Asn Ile Asn Ser Asp Ser Gln Gly Arg Gln Gln Met Thr Met
100 105 110

Ala Asn Ile Gly Ala Gly Leu Lys Tyr Tyr Phe Thr Glu Asn Phe Phe
115 120 125

Ala Lys Ala Ser Leu Asp Gly Gln Tyr Gly Leu Glu Lys Arg Asp Asn
130 135 140

Gly His Gln Gly Glu Trp Met Ala Gly Leu Gly Val Gly Phe Asn Phe
145 150 155 160

Gly Gly Ser Lys Ala Ala Pro Ala Pro Glu Pro Val Ala Asp Val Cys
165 170 175

Ser Asp Ser Asp Asn Asp Gly Val Cys Asp Asn Val Asp Lys Cys Pro
180 185 190

Asp Thr Pro Ala Asn Val Thr Val Asp Ala Asn Gly Cys Pro Ala Val
195 200 205

Ala Glu Val Val Arg Val Gln Leu Asp Val Lys Phe Asp Phe Asp Lys
210 215 220

Ser Lys Val Lys Glu Asn Ser Tyr Ala Asp Ile Lys Asn Leu Ala Asp
225 230 235 240

Phe Met Lys Gln Tyr Pro Ser Thr Ser Thr Thr Val Glu Gly His Thr
245 250 255

Asp Ser Val Gly Thr Asp Ala Tyr Asn Gln Lys Leu Ser Glu Arg Arg
260 265 270

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Ala Asn Ala Val Arg Asp Val Leu Val Asn Glu Tyr Gly Val Glu Gly
275 280 285

Gly Arg Val Asn Ala Val Gly Tyr Gly Glu Ser Arg Pro Val Ala Asp
290 295 300

Asn Ala Thr Ala Glu Gly Arg Ala Ile Asn Arg Arg Val Glu Ala Glu
305 310 315 320

Val Glu Ala Glu Ala Lys
325

<210> 62
<211> 324
<212> PRT
<213> Pseudomonas aeruginosa

<400> 62
Cys Val Ser Glu Leu Asp Ser Gly Ala Tyr Gly Ser Met Asp Asp Pro
1 5 10 15

Arg Asn Ala Gln Met Leu Asp Leu Val Asp Gln Ala Leu Lys Gly Asn
20 25 30

Met Ala Val Val Leu Val Ala Asp Val Met Pro His Lys Ser Leu Ser
35 40 45

Asp Ala Leu Thr Met Thr Gln Trp Thr Pro Thr Ala Ile Trp Glu Tyr
50 55 60

Glu Lys Asp Pro Lys Val Thr Phe Gly Arg Lys Phe Gln Thr Asn Ala
65 70 75 80

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

eolf-seql

His Ile Leu Pro Pro Gly Lys Tyr Leu Leu Thr Gly Gly Asp Asp Tyr
100 105 110

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

Gly Ser Gly His Gly Ala Asn Gly Thr Ala Tyr Leu Ser Pro Glu Leu
130 135 140

Tyr Arg Glu Tyr Tyr Arg Glu Glu Val Trp Lys Asp Ala Thr Tyr Gly
145 150 155 160

Ser Glu Ile Lys Thr Glu Lys Val Cys Thr Ala Val His Val Ala Ser
165 170 175

Gly Ala Cys Val Ser Trp Gly Glu Gln Gln Tyr Thr Gln Thr Thr Gln
180 185 190

Gly Ser Gln Ala Gly Tyr Tyr Gln Gln Thr Asp Ser Arg Asp Val Pro
195 200 205

Ser Ile Lys Val Gln Ala Arg Leu Pro Val Asp Lys Ala Leu Ala Ser
210 215 220

Phe Thr Val Gln Gly Gly Gln Leu Leu Leu Ala Pro Arg Met His Leu
225 230 235 240

Lys Thr Pro Gly Tyr Lys Tyr Gln Gln Ser Lys Cys Arg Ala Ile Asp
245 250 255

Pro Lys Lys Ile Glu Cys Pro Leu Glu Asn Leu Thr Val Tyr Thr Trp
260 265 270

Pro Ala Pro Met Asp Phe Ser Gln Ser Leu Ile Ala Gln Arg Ala Leu
275 280 285

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Ser Asp Lys His Arg Gln Leu Leu Ser Arg Leu Gln Pro Leu Gln Ile
290 295 300

Thr Pro Leu Arg Lys Gln Gly Met Glu Asp Pro Val Trp Gly Val Pro
305 310 315 320

Leu Ser Leu Lys

<210> 63

<211> 965

<212> PRT

<213> Pseudomonas aeruginosa

<400> 63

Ala Tyr Val Glu Ala Gly Arg Pro Gly Asp Pro Ala Ser Trp Arg Ser
1 5 10 15

Ala Glu Tyr Gln Gln Asp Trp Gly Leu Glu Arg Met Arg Ala Asp Gln
20 25 30

Ala Tyr Ala Ala Gly Ile Asp Gly Gln Gly Val Lys Ile Gly Glu Met
35 40 45

Asp Ser Gly Phe Asp Pro Ser His Pro Asp Thr Pro Ala Ser Arg Tyr
50 55 60

Gln Pro Val Thr Ala Ser Gly Thr Tyr Val Asp Gly Thr Pro Phe Ser
65 70 75 80

Val Ser Gly Ala Met Asn Gly Asn Asn Asp Ser His Gly Thr His Val
85 90 95

Gly Gly Thr Leu Gly Ala Ser Arg Asp Gly Val Gly Met His Gly Val
100 105 110

Ala Tyr Ala Ala Gln Val Tyr Val Ala Asn Thr Asn Gln Asn Asp Ser
115 120 125

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Phe Leu Phe Gly Pro Thr Pro Asp Pro Asn Tyr Phe Lys Ala Ala Tyr
130 135 140

Gln Ala Leu Ala Asp Ala Gly Val Arg Ala Ile Asn Asn Ser Trp Gly
145 150 155 160

Ser Gln Pro Lys Asp Val Ser Tyr Glu Thr Leu Asp Gly Leu His Ala
165 170 175

Ala Tyr Ala Gln His Tyr Gly Arg Ser Thr Trp Leu Asp Ala Ala Ala
180 185 190

Gly Val Ser Arg Gln Gly Val Ile Asn Val Phe Ser Ala Gly Asn Ser
195 200 205

Gly Tyr Ala Asn Ala Ser Val Arg Ser Ala Leu Pro Tyr Phe Gln Pro
210 215 220

Asp Leu Glu Gly His Trp Leu Ala Val Ser Gly Leu Asp Gln Gln Asn
225 230 235 240

Gly Gln Arg Tyr Asn Arg Cys Gly Ile Ala Lys Tyr Trp Cys Ile Thr
245 250 255

Thr Pro Gly Arg Leu Ile Asn Ser Thr Met Pro Gly Gly Gly Tyr Ala
260 265 270

Asn Lys Ser Gly Thr Ser Met Ala Ala Pro His Ala Thr Gly Ala Leu
275 280 285

Ala Leu Val Met Gln Arg Tyr Pro Tyr Leu Asn Asn Glu Gln Ala Leu
290 295 300

Gln Val Leu Leu Thr Thr Ala Thr Gln Leu Asp Gly Thr Pro Thr Gly
305 310 315 320

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Ala Pro Thr Asp Thr Val Gly Trp Gly Val Pro Asp Leu Gly Arg Ala
325 330 335

Met His Gly Pro Gly Gln Leu Leu Gly Arg Phe Glu Ala Asn Leu Pro
340 345 350

Ala Gly Leu Arg Asp Glu Trp Ser Asn Pro Ile Ser Asp Ser Ala Leu
355 360 365

Leu Gln Arg Gln Ala Glu Asp Ala Ala Glu His Ala Ala Trp Gln Arg
370 375 380

Thr Leu Lys Asp Lys Gly Trp Glu Asn Gly Leu Pro Ala Gly Ala Ser
385 390 395 400

Gln Gln Glu Arg Thr Asp Tyr Ala Ile Gly Met Ala Arg Asp Gln Ala
405 410 415

Ala Ala Gln Arg Gln Tyr Gln Gly Ser Leu Val Lys Ala Gly Ala Gly
420 425 430

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

Asp Gly Gly Leu Leu Ser Val Asp Gly Ser Leu Leu Ser Ala Val Glu
450 455 460

Val Asn Ala Gly Gly Thr Leu Gly Gly Ser Gly Arg Ile Gly Gly Leu
465 470 475 480

Leu Ala Arg Ser Gly Gly Thr Val Ala Ala Gly Asn Ser Ile Gly Thr
485 490 495

Leu Glu Val Ala Gly Asp Leu Arg Phe Glu Ser Gly Ser Thr Tyr Ala
500 505 510

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Val Glu Leu Ser Glu Ser Ala Ser Asp Arg Ile Val Ala Ser Gly Lys
515 520 525

Ala Ser Ile Ala Gly Gly Asn Val Thr Leu Ala Met Glu Asn Ser Pro
530 535 540

Asp Leu Leu Ser Gln Ser Gln Val Glu Ser Leu Val Gly Arg Arg Tyr
545 550 555 560

Asp Ile Leu Asp Ala Ala Gly Gly Ile Asp Gly Arg Phe Asp Ala Val
565 570 575

Leu Pro Asn Tyr Leu Phe Leu Gly Gly Thr Leu Asp Tyr Ala Ala Asn
580 585 590

Ala Ile Arg Leu Asp Ile Gly Arg Asn Gly Thr Thr Leu Ala Ser Val
595 600 605

Ala Gln Thr Pro Asn Gln Ala Ala Val Ala Gly Ala Val Glu Thr Leu
610 615 620

Gly Ala Gly Asn Pro Val Tyr Glu Ser Leu Leu Leu Ser Glu Asn Ala
625 630 635 640

Ala Thr Ala Gln Arg Ala Phe Gln Gln Leu Ser Gly Glu Ile Tyr Pro
645 650 655

Ala Leu Ala Gly Leu Leu Leu Asn Asp Ser Arg Tyr Leu Arg Asp Ser
660 665 670

Val Gly Glu Arg Leu Arg Gln Thr Ser Asp Gly Glu Ala Gly Gly Glu
675 680 685

Ala Pro Glu Gly Trp Phe Lys Ala Leu Gly Ser Trp Gly Lys Ser Ala
690 695 700

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Asp Gly Ser His Gly Ser Glu Gly Tyr Arg His Ser Val Gly Gly Phe
705 710 715 720

Leu Leu Gly Val Asp Ser Gln Val Ala Ser Asp Thr Arg Leu Gly Leu
725 730 735

Val Ala Gly Tyr Ser Asn Ser Ser Leu Asn Met Asp Ser Ser Leu Gln
740 745 750

Ser Ser Ala Ser Ile Asp Ser Tyr His Leu Gly Ala Tyr Leu Gly Arg
755 760 765

Gln Leu Gln Gln Trp Arg Leu Ser Leu Gly Ala Ala His Ala Trp His
770 775 780

Arg Ala Glu Val Lys Arg Asp Leu Gln Tyr Gly Ala Val Ala Gly Lys
785 790 795 800

Gln Lys Ala Lys Leu Asp Ala Gln Ser Ser Gln Leu Phe Ala Glu Ala
805 810 815

Ala Tyr Ala Leu Gly Trp Arg Ser Leu Glu Leu Glu Pro Phe Ala Gly
820 825 830

Leu Ala Tyr Val His Val Ala Ser Asp Asp Phe Arg Glu Arg Gly Ser
835 840 845

Ala Ala Ala Leu Glu Gly Gly Asp Asp Asn Leu Asp Ala Ala Phe Thr
850 855 860

Thr Leu Gly Leu Arg Ala Lys Arg His Phe Glu Leu Asp Ala Gly Arg
865 870 875 880

Arg Leu Ala Leu Ser Gly Thr Leu Gly Trp Arg His Asn Leu Ser Asp
885 890 895

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Thr Thr Pro Gln Arg His Leu Ala Phe Ala Ser Gly Ser Gln Pro Phe
900 905 910

Ser Val Glu Ser Val Ala Leu Ser Arg Asp Ala Ala Leu Leu Gly Val
915 920 925

Asp Ala Ser Leu Ala Val Asn Arg Glu Val Ser Val Arg Leu Gly Tyr
930 935 940

Asn Gly Leu Leu Gly Ser Arg Glu Lys Asp His Gly Val Gly Leu Ala
945 950 955 960

Val Asp Trp Arg Phe
965

<210> 64

<211> 143

<212> PRT

<213> Pseudomonas aeruginosa

<400> 64

Asp Ala Pro Gly Gly Ala Gly Cys Gly Trp Gly Asn Met Leu Phe Lys
1 5 10 15

Gly Gln Arg Gly Val Ala Thr His Val Val Ala Ala Thr Thr Asn Gly
20 25 30

Thr Ser Gly Asn Asn Thr Phe Gly Met Thr Thr Gly Thr Asn Gly Cys
35 40 45

His Thr Asn Gly Ala Leu Ser Tyr Gly Gly Lys Pro Leu Leu Val Leu
50 55 60

Gly Ser Met Met Asp Glu Leu Ser Glu Asp Met Ala Lys Gly Asn Gly
65 70 75 80

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

Arg Glu His Phe Ala Ala Val Thr His Glu His Phe Ser Glu Ile Phe
100 105 110

Asn Lys Ser Asp Ala Thr Ala Ala Asp Val Tyr Ala Asn Thr Gln Ala
115 120 125

Ile Leu Lys Gln Asp Ala Arg Leu Ala Lys Tyr Ala Glu Gln Ala
130 135 140

<210> 65

<211> 559

<212> PRT

<213> Pseudomonas aeruginosa

<400> 65

Cys Gln Ser Leu Ile His Lys Thr Pro Asp Gly Thr Pro Pro Val Glu
1 5 10 15

Asp Thr Ala Val Glu Thr Lys Ala Lys Pro Glu Lys Tyr Gly Ser Phe
20 25 30

Ser Glu Asp Ser Leu Tyr Ser Leu Leu Val Ala Glu Leu Ala Gly Gln
35 40 45

Arg Asn Arg Phe Asp Ile Ala Leu Ser Asn Tyr Val Val Gln Ala Gln
50 55 60

Lys Thr Arg Asp Pro Gly Val Ser Glu Arg Ala Phe Arg Ile Ala Glu
65 70 75 80

Tyr Leu Gly Ala Asp Gln Glu Ala Leu Asp Thr Ser Leu Leu Trp Ala
85 90 95

Arg Ser Ala Pro Asp Asn Leu Asp Ala Gln Arg Ala Ala Ala Ile Gln
100 105 110

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Leu Ala Arg Ala Gly Arg Tyr Glu Glu Ser Met Val Tyr Met Glu Lys
115 120 125

Val Leu Asn Gly Gln Gly Asp Thr His Phe Asp Phe Leu Ala Leu Ser
130 135 140

Ala Ala Glu Thr Asp Pro Asp Thr Arg Ala Gly Leu Leu Gln Ser Phe
145 150 155 160

Asp His Leu Leu Lys Lys Tyr Pro Asn Asn Gly Gln Leu Leu Phe Gly
165 170 175

Lys Ala Leu Leu Leu Gln Gln Asp Gly Arg Pro Asp Glu Ala Leu Thr
180 185 190

Leu Leu Glu Asp Asn Ser Ala Ser Arg His Glu Val Ala Pro Leu Leu
195 200 205

Leu Arg Ser Arg Leu Leu Gln Ser Met Lys Arg Ser Asp Glu Ala Leu
210 215 220

Pro Leu Leu Lys Ala Gly Ile Lys Glu His Pro Asp Asp Lys Arg Val
225 230 235 240

Arg Leu Ala Tyr Ala Arg Leu Leu Val Glu Gln Asn Arg Leu Asp Asp
245 250 255

Ala Lys Ala Glu Phe Ala Gly Leu Val Gln Gln Phe Pro Asp Asp Asp
260 265 270

Asp Leu Arg Phe Ser Leu Ala Leu Val Cys Leu Glu Ala Gln Ala Trp
275 280 285

Asp Glu Ala Arg Ile Tyr Leu Glu Glu Leu Val Glu Arg Asp Ser His
290 295 300

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Val Asp Ala Ala His Phe Asn Leu Gly Arg Leu Ala Glu Glu Gln Lys
305 310 315 320

Asp Thr Ala Arg Ala Leu Asp Glu Tyr Ala Gln Val Gly Pro Gly Asn
325 330 335

Asp Phe Leu Pro Ala Gln Leu Arg Gln Thr Asp Val Leu Leu Lys Ala
340 345 350

Gly Arg Val Asp Glu Ala Ala Gln Arg Leu Asp Lys Ala Arg Ser Glu
355 360 365

Gln Pro Asp Tyr Ala Ile Gln Leu Tyr Leu Ile Glu Ala Glu Ala Leu
370 375 380

Ser Asn Asn Asp Gln Gln Glu Lys Ala Trp Gln Ala Ile Gln Glu Gly
385 390 395 400

Leu Lys Gln Tyr Pro Glu Asp Leu Asn Leu Leu Tyr Thr Arg Ser Met
405 410 415

Leu Ala Glu Lys Arg Asn Asp Leu Ala Gln Met Glu Lys Asp Leu Arg
420 425 430

Phe Val Ile Ala Arg Glu Pro Asp Asn Ala Met Ala Leu Asn Ala Leu
435 440 445

Gly Tyr Thr Leu Ala Asp Arg Thr Thr Arg Tyr Gly Glu Ala Arg Glu
450 455 460

Leu Ile Leu Lys Ala His Lys Leu Asn Pro Asp Asp Pro Ala Ile Leu
465 470 475 480

Asp Ser Met Gly Trp Ile Asn Tyr Arg Gln Gly Lys Leu Ala Asp Ala
485 490 495

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Glu Arg Tyr Leu Arg Gln Ala Leu Gln Arg Tyr Pro Asp His Glu Val
500 505 510

Ala Ala His Leu Gly Glu Val Leu Trp Ala Gln Gly Arg Gln Gly Asp
515 520 525

Ala Arg Ala Ile Trp Arg Glu Tyr Leu Asp Lys Gln Pro Asp Ser Asp
530 535 540

Val Leu Arg Arg Thr Ile Lys Arg Leu Thr Gly Ala Glu Thr Pro
545 550 555

<210> 66
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 66
Met Ala His His His His His His
1 5

<210> 67
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 67
Gly Ser Gly Gly Gly Gly
1 5

eolf-seql

<210> 68

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 68

Gly Ser Gly Ser Gly Gly Gly Gly
1 5

<210> 69

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 69

Ala Ser Gly Gly Gly Ser
1 5

<210> 70

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic 6xHis tag"

<400> 70

His His His His His His
1 5

<210> 71

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<220>

<221> VARIANT

<222> (3)..(10)

<223> /replace=" "

<220>

<221> misc_feature

<222> (1)..(10)

<223> /note="This sequence may encompass 2 to 10 residues, wherein some positions may be absent"

<220>

<221> misc_feature

<222> (1)..(10)

<223> /note="Variant residues given in the sequence have no preference with respect to those in the annotations for variant positions"

<400> 71

Gly	Gly	Gly	Gly	Gly	Gly	Gly	Gly	Gly	Gly
1				5					10

<210> 72

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<220>

<221> VARIANT

<222> (4)..(10)

<223> /replace=" "

<220>

eolf-seql

<221> misc_feature
<222> (1)..(10)
<223> /note="This sequence may encompass 3 to 10 residues,
 wherein some positions may be absent"

<220>
<221> misc_feature
<222> (1)..(10)
<223> /note="Variant residues given in the sequence have no
 preference with respect to those in the annotations for
 variant positions"

<400> 72
His His His His His His His His His His
1 5 10

<210> 73
<211> 4
<212> PRT
<213> Artificial Sequence

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

<400> 73
Gly Gly Gly Gly
1