

LISTADO DE SECUENCIAS

<110> DuPont Nutrition Biosciences ApS

<120> MÉTODO

<130> P103889PCT

<150> MYPI2014700786

<151> 2014-04-01

<150> MYPI2014703899

<151> 2014-12-19

<160> 124

<170> PatentIn versión 3.5

<210> 1

<211> 335

<212> PRT

<213> Aeromonas hydrophila

<400> 1

Met Lys Lys Trp Phe Val Cys Leu Leu Gly Leu Val Ala Leu Thr Val

1

5

10

15

Gln Ala Ala Asp Ser Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly

20

25

30

Asp Ser Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr
35 40 45

Leu Pro Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro
50 55 60

Val Trp Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala
65 70 75 80

Asn Glu Ala Glu Gly Gly Ala Thr Ala Val Ala Tyr Asn Lys Ile Ser
85 90 95

Trp Asn Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr
100 105 110

Gln Phe Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu
115 120 125

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

Asp Ala Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met
145 150 155 160

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

Gly Gln Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser
180 185 190

His Val Ser Ala Tyr His Asn Gln Leu Leu Leu Asn Leu Ala Arg Gln
195 200 205

Leu Ala Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe
210 215 220

Ala Glu Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu
225 230 235 240

Asn Pro Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ala Thr Arg
245 250 255

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

Leu Ala Ile Ala Gly Asn Pro Leu Leu Ala Gln Ala Val Ala Ser Pro
275 280 285

Met Ala Arg Arg Ser Ala Ser Pro Leu Asn Cys Glu Gly Lys Met Phe

290

295

300

Trp Asp Gln Val His Pro Thr Thr Val Val His Ala Ala Leu Ser Glu

305

310

315

320

Arg Ala Ala Thr Phe Ile Ala Asn Gln Tyr Glu Phe Leu Ala His

325

330

335

<210> 2

<211> 361

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso de pfam00657

<400> 2

Ile Val Ala Phe Gly Asp Ser Leu Thr Asp Gly Glu Ala Tyr Tyr Gly

1

5

10

15

Asp Ser Asp Gly Gly Gly Trp Gly Ala Gly Leu Ala Asp Arg Leu Thr

20

25

30

Ala Leu Leu Arg Leu Arg Ala Arg Pro Arg Gly Val Asp Val Phe Asn

35

40

45

Arg Gly Ile Ser Gly Arg Thr Ser Asp Gly Arg Leu Ile Val Asp Ala
50 55 60

Leu Val Ala Leu Leu Phe Leu Ala Gln Ser Leu Gly Leu Pro Asn Leu
65 70 75 80

Pro Pro Tyr Leu Ser Gly Asp Phe Leu Arg Gly Ala Asn Phe Ala Ser
85 90 95

Ala Gly Ala Thr Ile Leu Pro Thr Ser Gly Pro Phe Leu Ile Gln Val
100 105 110

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

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

Ser Pro Asp Leu Val Thr Ile Met Ile Gly Thr Asn Asp Leu Ile Thr
145 150 155 160

Ser Ala Phe Phe Gly Pro Lys Ser Thr Glu Ser Asp Arg Asn Val Ser
165 170 175

Val Pro Glu Phe Lys Asp Asn Leu Arg Gln Leu Ile Lys Arg Leu Arg

				180						185									190
Ser	Asn	Asn	Gly	Ala	Arg	Ile	Ile	Val	Leu	Ile	Thr	Leu	Val	Ile	Leu				
		195					200					205							
Asn	Leu	Gly	Pro	Leu	Gly	Cys	Leu	Pro	Leu	Lys	Leu	Ala	Leu	Ala	Leu				
		210				215					220								
Ala	Ser	Ser	Lys	Asn	Val	Asp	Ala	Ser	Gly	Cys	Leu	Glu	Arg	Leu	Asn				
225					230					235					240				
Glu	Ala	Val	Ala	Asp	Phe	Asn	Glu	Ala	Leu	Arg	Glu	Leu	Ala	Ile	Ser				
				245					250					255					
Lys	Leu	Glu	Asp	Gln	Leu	Arg	Lys	Asp	Gly	Leu	Pro	Asp	Val	Lys	Gly				
			260					265					270						
Ala	Asp	Val	Pro	Tyr	Val	Asp	Leu	Tyr	Ser	Ile	Phe	Gln	Asp	Leu	Asp				
		275					280					285							
Gly	Ile	Gln	Asn	Pro	Ser	Ala	Tyr	Val	Tyr	Gly	Phe	Glu	Thr	Thr	Lys				
	290					295					300								
Ala	Cys	Cys	Gly	Tyr	Gly	Gly	Arg	Tyr	Asn	Tyr	Asn	Arg	Val	Cys	Gly				
305					310					315					320				

Asn Ala Gly Leu Cys Asn Val Thr Ala Lys Ala Cys Asn Pro Ser Ser
325 330 335

Tyr Leu Leu Ser Phe Leu Phe Trp Asp Gly Phe His Pro Ser Glu Lys
340 345 350

Gly Tyr Lys Ala Val Ala Glu Ala Leu
355 360

<210> 3

<211> 335

<212> PRT

<213> Aeromonas hydrophila

<400> 3

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

Gln Ala Ala Asp Ser Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly
20 25 30

Asp Ser Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr
35 40 45

Leu Pro Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro
50 55 60

Val Trp Leu Glu Gln Leu Thr Asn Glu Phe Pro Gly Leu Thr Ile Ala
65 70 75 80

Asn Glu Ala Glu Gly Gly Pro Thr Ala Val Ala Tyr Asn Lys Ile Ser
85 90 95

Trp Asn Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr
100 105 110

Gln Phe Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu
115 120 125

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

Asp Ala Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met
145 150 155 160

Val Leu Asn Gly Ala Lys Glu Ile Leu Leu Phe Asn Leu Pro Asp Leu
165 170 175

Gly Gln Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Ala Ser

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

Pro Ala Ala Thr Phe Ile Glu Ser Gln Tyr Glu Phe Leu Ala His
325 330 335

<210> 4

<211> 336

<212> PRT

<213> Aeromonas salmonicida

<400> 4

Met Lys Lys Trp Phe Val Cys Leu Leu Gly Leu Ile Ala Leu Thr Val
1 5 10 15

Gln Ala Ala Asp Thr Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly
20 25 30

Asp Ser Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr
35 40 45

Leu Pro Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro
50 55 60

Val Trp Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala
65 70 75 80

Asn Glu Ala Glu Gly Gly Ala Thr Ala Val Ala Tyr Asn Lys Ile Ser
85 90 95

Trp Asn Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr
100 105 110

Gln Phe Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu
115 120 125

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

Asp Ala Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met
145 150 155 160

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

Gly Gln Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser
180 185 190

His Val Ser Ala Tyr His Asn Lys Leu Leu Leu Asn Leu Ala Arg Gln
195 200 205

Leu Ala Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe

210	215	220	
Ala Glu Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu			
225	230	235	240
Asn Pro Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ala Thr Arg			
	245	250	255
Ser Val Ser Thr Asp Arg Gln Leu Ser Ala Phe Ser Pro Gln Glu Arg			
	260	265	270
Leu Ala Ile Ala Gly Asn Pro Leu Leu Ala Gln Ala Val Ala Ser Pro			
	275	280	285
Met Ala Arg Arg Ser Ala Ser Pro Leu Asn Cys Glu Gly Lys Met Phe			
290	295	300	
Trp Asp Gln Val His Pro Thr Thr Val Val His Ala Ala Leu Ser Glu			
305	310	315	320
Arg Ala Ala Thr Phe Ile Glu Thr Gln Tyr Glu Phe Leu Ala His Gly			
	325	330	335

<210> 5
 <211> 295

<212> PRT

<213> Streptomyces coelicolor

<400> 5

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

Val Gly Thr Leu Ala Leu Gly Leu Thr Asp Ala Thr Ala His Ala Ala
20 25 30

Pro Ala Gln Ala Thr Pro Thr Leu Asp Tyr Val Ala Leu Gly Asp Ser
35 40 45

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

Cys Leu Arg Ser Thr Ala Asn Tyr Pro His Val Ile Ala Asp Thr Thr
65 70 75 80

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

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

Gly Thr Gly Thr Asp Leu Val Thr Leu Thr Ile Gly Gly Asn Asp Asn
115 120 125

Ser Thr Phe Ile Asn Ala Ile Thr Ala Cys Gly Thr Ala Gly Val Leu
130 135 140

Ser Gly Gly Lys Gly Ser Pro Cys Lys Asp Arg His Gly Thr Ser Phe
145 150 155 160

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

Leu Gly Val Arg Ala Arg Ala Pro His Ala Arg Val Ala Ala Leu Gly
180 185 190

Tyr Pro Trp Ile Thr Pro Ala Thr Ala Asp Pro Ser Cys Phe Leu Lys
195 200 205

Leu Pro Leu Ala Ala Gly Asp Val Pro Tyr Leu Arg Ala Ile Gln Ala
210 215 220

His Leu Asn Asp Ala Val Arg Arg Ala Ala Glu Glu Thr Gly Ala Thr
225 230 235 240

Tyr Val Asp Phe Ser Gly Val Ser Asp Gly His Asp Ala Cys Glu Ala

245 250 255
Pro Gly Thr Arg Trp Ile Glu Pro Leu Leu Phe Gly His Ser Leu Val
260 265 270

Pro Val His Pro Asn Ala Leu Gly Glu Arg Arg Met Ala Glu His Thr
275 280 285

Met Asp Val Leu Gly Leu Asp
290 295

<210> 6
<211> 295
<212> PRT
<213> Streptomyces coelicolor

<400> 6

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

Val Gly Thr Leu Ala Leu Gly Leu Thr Asp Ala Thr Ala His Ala Ala
20 25 30

Pro Ala Gln Ala Thr Pro Thr Leu Asp Tyr Val Ala Leu Gly Asp Ser
35 40 45

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

Cys Leu Arg Ser Thr Ala Asn Tyr Pro His Val Ile Ala Asp Thr Thr
65 70 75 80

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

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

Gly Thr Gly Thr Asp Leu Val Thr Leu Thr Ile Gly Gly Asn Asp Asn
115 120 125

Ser Thr Phe Ile Asn Ala Ile Thr Ala Cys Gly Thr Ala Gly Val Leu
130 135 140

Ser Gly Gly Lys Gly Ser Pro Cys Lys Asp Arg His Gly Thr Ser Phe
145 150 155 160

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

Leu Gly Val Arg Ala Arg Ala Pro His Ala Arg Val Ala Ala Leu Gly
180 185 190

Tyr Pro Trp Ile Thr Pro Ala Thr Ala Asp Pro Ser Cys Phe Leu Lys
195 200 205

Leu Pro Leu Ala Ala Gly Asp Val Pro Tyr Leu Arg Ala Ile Gln Ala
210 215 220

His Leu Asn Asp Ala Val Arg Arg Ala Ala Glu Glu Thr Gly Ala Thr
225 230 235 240

Tyr Val Asp Phe Ser Gly Val Ser Asp Gly His Asp Ala Cys Glu Ala
245 250 255

Pro Gly Thr Arg Trp Ile Glu Pro Leu Leu Phe Gly His Ser Leu Val
260 265 270

Pro Val His Pro Asn Ala Leu Gly Glu Arg Arg Met Ala Glu His Thr
275 280 285

Met Asp Val Leu Gly Leu Asp
290 295

<211> 238

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 7

Met Asp Tyr Glu Lys Phe Leu Leu Phe Gly Asp Ser Ile Thr Glu Phe
1 5 10 15

Ala Phe Asn Thr Arg Pro Ile Glu Asp Gly Lys Asp Gln Tyr Ala Leu
20 25 30

Gly Ala Ala Leu Val Asn Glu Tyr Thr Arg Lys Met Asp Ile Leu Gln
35 40 45

Arg Gly Phe Lys Gly Tyr Thr Ser Arg Trp Ala Leu Lys Ile Leu Pro
50 55 60

Glu Ile Leu Lys His Glu Ser Asn Ile Val Met Ala Thr Ile Phe Leu
65 70 75 80

Gly Ala Asn Asp Ala Cys Ser Ala Gly Pro Gln Ser Val Pro Leu Pro
85 90 95

Glu Phe Ile Asp Asn Ile Arg Gln Met Val Ser Leu Met Lys Ser Tyr
100 105 110

His Ile Arg Pro Ile Ile Ile Gly Pro Gly Leu Val Asp Arg Glu Lys
115 120 125

Trp Glu Lys Glu Lys Ser Glu Glu Ile Ala Leu Gly Tyr Phe Arg Thr
130 135 140

Asn Glu Asn Phe Ala Ile Tyr Ser Asp Ala Leu Ala Lys Leu Ala Asn
145 150 155 160

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

Gly Gly Asp Ala Trp Gln Gln Leu Leu Thr Asp Gly Leu His Phe Ser
180 185 190

Gly Lys Gly Tyr Lys Ile Phe His Asp Glu Leu Leu Lys Val Ile Glu
195 200 205

Thr Phe Tyr Pro Gln Tyr His Pro Lys Asn Met Gln Tyr Lys Leu Lys
210 215 220

Asp Trp Arg Asp Val Leu Asp Asp Gly Ser Asn Ile Met Ser
225 230 235

<210> 8

<211> 347

<212> PRT

<213> Ralstonia sp.

<400> 8

Met Asn Leu Arg Gln Trp Met Gly Ala Ala Thr Ala Ala Leu Ala Leu

1 5 10 15

Gly Leu Ala Ala Cys Gly Gly Gly Gly Thr Asp Gln Ser Gly Asn Pro

20 25 30

Asn Val Ala Lys Val Gln Arg Met Val Val Phe Gly Asp Ser Leu Ser

35 40 45

Asp Ile Gly Thr Tyr Thr Pro Val Ala Gln Ala Val Gly Gly Gly Lys

50 55 60

Phe Thr Thr Asn Pro Gly Pro Ile Trp Ala Glu Thr Val Ala Ala Gln

65 70 75 80

Leu Gly Val Thr Leu Thr Pro Ala Val Met Gly Tyr Ala Thr Ser Val

85 90 95

Gln Asn Cys Pro Lys Ala Gly Cys Phe Asp Tyr Ala Gln Gly Gly Ser

100 105 110

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

Leu Thr Tyr Pro Val Gln Gln Gln Leu Ala Asn Phe Tyr Ala Ala Ser
130 135 140

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

Ser Asn Asp Ile Phe Phe Trp Thr Thr Ala Ala Ala Thr Ser Gly Ser
165 170 175

Gly Val Thr Pro Ala Ile Ala Thr Ala Gln Val Gln Gln Ala Ala Thr
180 185 190

Asp Leu Val Gly Tyr Val Lys Asp Met Ile Ala Lys Gly Ala Thr Gln
195 200 205

Val Tyr Val Phe Asn Leu Pro Asp Ser Ser Leu Thr Pro Asp Gly Val
210 215 220

Ala Ser Gly Thr Thr Gly Gln Ala Leu Leu His Ala Leu Val Gly Thr
225 230 235 240

Phe Asn Thr Thr Leu Gln Ser Gly Leu Ala Gly Thr Ser Ala Arg Ile
245 250 255

Ile Asp Phe Asn Ala Gln Leu Thr Ala Ala Ile Gln Asn Gly Ala Ser
260 265 270

Phe Gly Phe Ala Asn Thr Ser Ala Arg Ala Cys Asp Ala Thr Lys Ile
275 280 285

Asn Ala Leu Val Pro Ser Ala Gly Gly Ser Ser Leu Phe Cys Ser Ala
290 295 300

Asn Thr Leu Val Ala Ser Gly Ala Asp Gln Ser Tyr Leu Phe Ala Asp
305 310 315 320

Gly Val His Pro Thr Thr Ala Gly His Arg Leu Ile Ala Ser Asn Val
325 330 335

Leu Ala Arg Leu Leu Ala Asp Asn Val Ala His
340 345

<210> 9

<211> 261

<212> PRT

<213> Streptomyces coelicolor

<400> 9

Met Ile Gly Ser Tyr Val Ala Val Gly Asp Ser Phe Thr Glu Gly Val
1 5 10 15

Gly Asp Pro Gly Pro Asp Gly Ala Phe Val Gly Trp Ala Asp Arg Leu
20 25 30

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

Asn Leu Ala Val Arg Gly Arg Leu Leu Asp Gln Ile Val Ala Glu Gln
50 55 60

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

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

Glu Arg Phe Glu Leu Ala Val Ala Ala Leu Thr Ala Ala Ala Gly Thr
100 105 110

Val Leu Val Thr Thr Gly Phe Asp Thr Arg Gly Val Pro Val Leu Lys
115 120 125

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

Ala Asp Arg Tyr Gly Cys Pro Val Leu Asp Leu Trp Ser Leu Arg Ser
145 150 155 160

Val Gln Asp Arg Arg Ala Trp Asp Ala Asp Arg Leu His Leu Ser Pro
165 170 175

Glu Gly His Thr Arg Val Ala Leu Arg Ala Gly Gln Ala Leu Gly Leu
180 185 190

Arg Val Pro Ala Asp Pro Asp Gln Pro Trp Pro Pro Leu Pro Pro Arg
195 200 205

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

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

His Val Thr Ala Lys Gly Thr Leu Ser Pro Asp Ala Ile Lys Thr Arg
245 250 255

Ile Ala Ala Val Ala

260

<210> 10

<211> 260

<212> PRT

<213> Streptomyces coelicolor

<400> 10

Met Gln Thr Asn Pro Ala Tyr Thr Ser Leu Val Ala Val Gly Asp Ser

1

5

10

15

Phe Thr Glu Gly Met Ser Asp Leu Leu Pro Asp Gly Ser Tyr Arg Gly

20

25

30

Trp Ala Asp Leu Leu Ala Thr Arg Met Ala Ala Arg Ser Pro Gly Phe

35

40

45

Arg Tyr Ala Asn Leu Ala Val Arg Gly Lys Leu Ile Gly Gln Ile Val

50

55

60

Asp Glu Gln Val Asp Val Ala Ala Ala Met Gly Ala Asp Val Ile Thr

65

70

75

80

Leu Val Gly Gly Leu Asn Asp Thr Leu Arg Pro Lys Cys Asp Met Ala

	85		90		95
Arg Val Arg Asp Leu Leu Thr Gln Ala Val Glu Arg Leu Ala Pro His					
	100		105		110
Cys Glu Gln Leu Val Leu Met Arg Ser Pro Gly Arg Gln Gly Pro Val					
	115		120		125
Leu Glu Arg Phe Arg Pro Arg Met Glu Ala Leu Phe Ala Val Ile Asp					
	130		135		140
Asp Leu Ala Gly Arg His Gly Ala Val Val Val Asp Leu Tyr Gly Ala					
	145		150		155
					160
Gln Ser Leu Ala Asp Pro Arg Met Trp Asp Val Asp Arg Leu His Leu					
	165		170		175
Thr Ala Glu Gly His Arg Arg Val Ala Glu Ala Val Trp Gln Ser Leu					
	180		185		190
Gly His Glu Pro Glu Asp Pro Glu Trp His Ala Pro Ile Pro Ala Thr					
	195		200		205
Pro Pro Pro Gly Trp Val Thr Arg Arg Thr Ala Asp Val Arg Phe Ala					
	210		215		220

Arg Gln His Leu Leu Pro Trp Ile Gly Arg Arg Leu Thr Gly Arg Ser
225 230 235 240

Ser Gly Asp Gly Leu Pro Ala Lys Arg Pro Asp Leu Leu Pro Tyr Glu
245 250 255

Asp Pro Ala Arg
260

<210> 11

<211> 454

<212> PRT

<213> Streptomyces coelicolor

<400> 11

Met Thr Arg Gly Arg Asp Gly Gly Ala Gly Ala Pro Pro Thr Lys His
1 5 10 15

Arg Ala Leu Leu Ala Ala Ile Val Thr Leu Ile Val Ala Ile Ser Ala
20 25 30

Ala Ile Tyr Ala Gly Ala Ser Ala Asp Asp Gly Ser Arg Asp His Ala
35 40 45

Leu Gln Ala Gly Gly Arg Leu Pro Arg Gly Asp Ala Ala Pro Ala Ser
50 55 60

Thr Gly Ala Trp Val Gly Ala Trp Ala Thr Ala Pro Ala Ala Ala Glu
65 70 75 80

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

Val His Thr Ser Val Gly Gly Thr Gly Ala Arg Ile Thr Leu Ser Asn
100 105 110

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

Ala Ala Gly Pro Asp Thr Ala Ala Ala Ile Ala Asp Thr Met Arg Arg
130 135 140

Leu Thr Phe Gly Gly Ser Ala Arg Val Ile Ile Pro Ala Gly Gly Gln
145 150 155 160

Val Met Ser Asp Thr Ala Arg Leu Ala Ile Pro Tyr Gly Ala Asn Val
165 170 175

Leu Val Thr Thr Tyr Ser Pro Ile Pro Ser Gly Pro Val Thr Tyr His

	180	185	190
Pro Gln Ala Arg Gln Thr Ser Tyr Leu Ala Asp Gly Asp Arg Thr Ala			
	195	200	205
Asp Val Thr Ala Val Ala Tyr Thr Thr Pro Thr Pro Tyr Trp Arg Tyr			
	210	215	220
Leu Thr Ala Leu Asp Val Leu Ser His Glu Ala Asp Gly Thr Val Val			
	225	230	235
			240
Ala Phe Gly Asp Ser Ile Thr Asp Gly Ala Arg Ser Gln Ser Asp Ala			
	245	250	255
Asn His Arg Trp Thr Asp Val Leu Ala Ala Arg Leu His Glu Ala Ala			
	260	265	270
Gly Asp Gly Arg Asp Thr Pro Arg Tyr Ser Val Val Asn Glu Gly Ile			
	275	280	285
Ser Gly Asn Arg Leu Leu Thr Ser Arg Pro Gly Arg Pro Ala Asp Asn			
	290	295	300
Pro Ser Gly Leu Ser Arg Phe Gln Arg Asp Val Leu Glu Arg Thr Asn			
	305	310	315
			320

Val Lys Ala Val Val Val Val Leu Gly Val Asn Asp Val Leu Asn Ser
325 330 335

Pro Glu Leu Ala Asp Arg Asp Ala Ile Leu Thr Gly Leu Arg Thr Leu
340 345 350

Val Asp Arg Ala His Ala Arg Gly Leu Arg Val Val Gly Ala Thr Ile
355 360 365

Thr Pro Phe Gly Gly Tyr Gly Gly Tyr Thr Glu Ala Arg Glu Thr Met
370 375 380

Arg Gln Glu Val Asn Glu Glu Ile Arg Ser Gly Arg Val Phe Asp Thr
385 390 395 400

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

Met Arg Ser Asp Tyr Asp Ser Gly Asp His Leu His Pro Gly Asp Lys
420 425 430

Gly Tyr Ala Arg Met Gly Ala Val Ile Asp Leu Ala Ala Leu Lys Gly
435 440 445

Ala Ala Pro Val Lys Ala

450

<210> 12

<211> 340

<212> PRT

<213> Streptomyces coelicolor

<400> 12

Met Thr Ser Met Ser Arg Ala Arg Val Ala Arg Arg Ile Ala Ala Gly

1

5

10

15

Ala Ala Tyr Gly Gly Gly Gly Ile Gly Leu Ala Gly Ala Ala Ala Val

20

25

30

Gly Leu Val Val Ala Glu Val Gln Leu Ala Arg Arg Arg Val Gly Val

35

40

45

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

50

55

60

Leu Pro Thr Ala Gly Asp Pro Pro Leu Arg Leu Met Met Leu Gly Asp

65

70

75

80

Ser Thr Ala Ala Gly Gln Gly Val His Arg Ala Gly Gln Thr Pro Gly

85

90

95

Ala Leu Leu Ala Ser Gly Leu Ala Ala Val Ala Glu Arg Pro Val Arg

100

105

110

Leu Gly Ser Val Ala Gln Pro Gly Ala Cys Ser Asp Asp Leu Asp Arg

115

120

125

Gln Val Ala Leu Val Leu Ala Glu Pro Asp Arg Val Pro Asp Ile Cys

130

135

140

Val Ile Met Val Gly Ala Asn Asp Val Thr His Arg Met Pro Ala Thr

145

150

155

160

Arg Ser Val Arg His Leu Ser Ser Ala Val Arg Arg Leu Arg Thr Ala

165

170

175

Gly Ala Glu Val Val Val Gly Thr Cys Pro Asp Leu Gly Thr Ile Glu

180

185

190

Arg Val Arg Gln Pro Leu Arg Trp Leu Ala Arg Arg Ala Ser Arg Gln

195

200

205

Leu Ala Ala Ala Gln Thr Ile Gly Ala Val Glu Gln Gly Gly Arg Thr

210

215

220

Val Ser Leu Gly Asp Leu Leu Gly Pro Glu Phe Ala Gln Asn Pro Arg
225 230 235 240

Glu Leu Phe Gly Pro Asp Asn Tyr His Pro Ser Ala Glu Gly Tyr Ala
245 250 255

Thr Ala Ala Met Ala Val Leu Pro Ser Val Cys Ala Ala Leu Gly Leu
260 265 270

Trp Pro Ala Asp Glu Glu His Pro Asp Ala Leu Arg Arg Glu Gly Phe
275 280 285

Leu Pro Val Ala Arg Ala Ala Ala Glu Ala Ala Ser Glu Ala Gly Thr
290 295 300

Glu Val Ala Ala Ala Met Pro Thr Gly Pro Arg Gly Pro Trp Ala Leu
305 310 315 320

Leu Lys Arg Arg Arg Arg Arg Arg Val Ser Glu Ala Glu Pro Ser Ser
325 330 335

Pro Ser Gly Val
340

<210> 13

<211> 305

<212> PRT

<213> Streptomyces coelicolor

<400> 13

Met Gly Arg Gly Thr Asp Gln Arg Thr Arg Tyr Gly Arg Arg Arg Ala
1 5 10 15

Arg Val Ala Leu Ala Ala Leu Thr Ala Ala Val Leu Gly Val Gly Val
20 25 30

Ala Gly Cys Asp Ser Val Gly Gly Asp Ser Pro Ala Pro Ser Gly Ser
35 40 45

Pro Ser Lys Arg Thr Arg Thr Ala Pro Ala Trp Asp Thr Ser Pro Ala
50 55 60

Ser Val Ala Ala Val Gly Asp Ser Ile Thr Arg Gly Phe Asp Ala Cys
65 70 75 80

Ala Val Leu Ser Asp Cys Pro Glu Val Ser Trp Ala Thr Gly Ser Ser
85 90 95

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

	100		105		110										
Ala	Glu	His	Ser	Trp	Asn	Tyr	Ala	Val	Thr	Gly	Ala	Arg	Met	Ala	Asp
	115				120					125					
Leu	Thr	Ala	Gln	Val	Thr	Arg	Ala	Ala	Gln	Arg	Glu	Pro	Glu	Leu	Val
	130				135					140					
Ala	Val	Met	Ala	Gly	Ala	Asn	Asp	Ala	Cys	Arg	Ser	Thr	Thr	Ser	Ala
145				150				155						160	
Met	Thr	Pro	Val	Ala	Asp	Phe	Arg	Ala	Gln	Phe	Glu	Glu	Ala	Met	Ala
			165					170					175		
Thr	Leu	Arg	Lys	Lys	Leu	Pro	Lys	Ala	Gln	Val	Tyr	Val	Ser	Ser	Ile
	180						185						190		
Pro	Asp	Leu	Lys	Arg	Leu	Trp	Ser	Gln	Gly	Arg	Thr	Asn	Pro	Leu	Gly
	195					200						205			
Lys	Gln	Val	Trp	Lys	Leu	Gly	Leu	Cys	Pro	Ser	Met	Leu	Gly	Asp	Ala
	210				215						220				
Asp	Ser	Leu	Asp	Ser	Ala	Ala	Thr	Leu	Arg	Arg	Asn	Thr	Val	Arg	Asp
225				230					235					240	

Arg Val Ala Asp Tyr Asn Glu Val Leu Arg Glu Val Cys Ala Lys Asp
245 250 255

Arg Arg Cys Arg Ser Asp Asp Gly Ala Val His Glu Phe Arg Phe Gly
260 265 270

Thr Asp Gln Leu Ser His Trp Asp Trp Phe His Pro Ser Val Asp Gly
275 280 285

Gln Ala Arg Leu Ala Glu Ile Ala Tyr Arg Ala Val Thr Ala Lys Asn
290 295 300

Pro
305

<210> 14
<211> 268
<212> PRT
<213> Streptomyces rimosus

<400> 14

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

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

Ile Gln Ala Thr Asp Tyr Val Ala Leu Gly Asp Ser Tyr Ser Ser Gly
35 40 45

Val Gly Ala Gly Ser Tyr Asp Ser Ser Ser Gly Ser Cys Lys Arg Ser
50 55 60

Thr Lys Ser Tyr Pro Ala Leu Trp Ala Ala Ser His Thr Gly Thr Arg
65 70 75 80

Phe Asn Phe Thr Ala Cys Ser Gly Ala Arg Thr Gly Asp Val Leu Ala
85 90 95

Lys Gln Leu Thr Pro Val Asn Ser Gly Thr Asp Leu Val Ser Ile Thr
100 105 110

Ile Gly Gly Asn Asp Ala Gly Phe Ala Asp Thr Met Thr Thr Cys Asn
115 120 125

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

Tyr Ile Gln Gln Thr Leu Pro Ala Gln Leu Asp Gln Val Tyr Asp Ala

145 150 155 160

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

Arg Phe Tyr Lys Leu Gly Gly Ser Cys Ala Val Gly Leu Ser Glu Lys
180 185 190

Ser Arg Ala Ala Ile Asn Ala Ala Ala Asp Asp Ile Asn Ala Val Thr
195 200 205

Ala Lys Arg Ala Ala Asp His Gly Phe Ala Phe Gly Asp Val Asn Thr
210 215 220

Thr Phe Ala Gly His Glu Leu Cys Ser Gly Ala Pro Trp Leu His Ser
225 230 235 240

Val Thr Leu Pro Val Glu Asn Ser Tyr His Pro Thr Ala Asn Gly Gln
245 250 255

Ser Lys Gly Tyr Leu Pro Val Leu Asn Ser Ala Thr
260 265

<210> 15

<211> 336

<212> PRT

<213> *Aeromonas salmonicida* subsp. *Salmonicida*

<400> 15

Met Lys Lys Trp Phe Val Cys Leu Leu Gly Leu Ile Ala Leu Thr Val
1 5 10 15

Gln Ala Ala Asp Thr Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly
20 25 30

Asp Ser Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr
35 40 45

Leu Pro Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro
50 55 60

Val Trp Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala
65 70 75 80

Asn Glu Ala Glu Gly Gly Ala Thr Ala Val Ala Tyr Asn Lys Ile Ser
85 90 95

Trp Asn Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr
100 105 110

Gln Phe Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu
115 120 125

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

Asp Ala Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met
145 150 155 160

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

Gly Gln Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser
180 185 190

His Val Ser Ala Tyr His Asn Lys Leu Leu Leu Asn Leu Ala Arg Gln
195 200 205

Leu Ala Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe
210 215 220

Ala Glu Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu
225 230 235 240

Asn Pro Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ala Thr Arg

	245	250	255
Ser Val Ser Thr Asp Arg Gln Leu Ser Ala Phe Ser Pro Gln Glu Arg			
	260	265	270
Leu Ala Ile Ala Gly Asn Pro Leu Leu Ala Gln Ala Val Ala Ser Pro			
	275	280	285
Met Ala Arg Arg Ser Ala Ser Pro Leu Asn Cys Glu Gly Lys Met Phe			
	290	295	300
Trp Asp Gln Val His Pro Thr Thr Val Val His Ala Ala Leu Ser Glu			
305	310	315	320
Arg Ala Ala Thr Phe Ile Glu Thr Gln Tyr Glu Phe Leu Ala His Gly			
	325	330	335
<210>	16		
<211>	318		
<212>	PRT		
<213>	Aeromonas salmonicida		
<400>	16		
Ala Asp Thr Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly Asp Ser			
1	5	10	15

Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro
20 25 30

Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp
35 40 45

Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala Asn Glu
50 55 60

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

Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe
85 90 95

Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu Trp Val
100 105 110

Gly Ala Asn Asp Tyr Leu Ala Tyr Gly Trp Asn Thr Glu Gln Asp Ala
115 120 125

Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met Val Leu
130 135 140

Asn Gly Ala Lys Gln Ile Leu Leu Phe Asn Leu Pro Asp Leu Gly Gln
145 150 155 160

Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser His Val
165 170 175

Ser Ala Tyr His Asn Lys Leu Leu Leu Asn Leu Ala Arg Gln Leu Ala
180 185 190

Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe Ala Glu
195 200 205

Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu Asn Pro
210 215 220

Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ala Thr Arg Ser Val
225 230 235 240

Ser Thr Asp Arg Gln Leu Ser Ala Phe Ser Pro Gln Glu Arg Leu Ala
245 250 255

Ile Ala Gly Asn Pro Leu Leu Ala Gln Ala Val Ala Ser Pro Met Ala
260 265 270

Arg Arg Ser Ala Ser Pro Leu Asn Cys Glu Gly Lys Met Phe Trp Asp

275

280

285

Gln Val His Pro Thr Thr Val Val His Ala Ala Leu Ser Glu Arg Ala

290

295

300

Ala Thr Phe Ile Glu Thr Gln Tyr Glu Phe Leu Ala His Gly

305

310

315

<210> 17

<211> 465

<212> PRT

<213> Candida parapsilosis

<400> 17

Met Arg Tyr Phe Ala Ile Ala Phe Leu Leu Ile Asn Thr Ile Ser Ala

1

5

10

15

Phe Val Leu Ala Pro Lys Lys Pro Ser Gln Asp Asp Phe Tyr Thr Pro

20

25

30

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

35

40

45

Asn Val Pro Asn Pro Leu Thr Asn Val Phe Thr Pro Val Lys Val Gln

50

55

60

Asn Ala Trp Gln Leu Leu Val Arg Ser Glu Asp Thr Phe Gly Asn Pro
65 70 75 80

Asn Ala Ile Val Thr Thr Ile Ile Gln Pro Phe Asn Ala Lys Lys Asp
85 90 95

Lys Leu Val Ser Tyr Gln Thr Phe Glu Asp Ser Gly Lys Leu Asp Cys
100 105 110

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

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

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

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

Lys Ser Gly Asn Leu Thr Gly Val Ser Ser Asp Ala Glu Thr Leu Leu
180 185 190

Trp Gly Tyr Ser Gly Gly Ser Leu Ala Ser Gly Trp Ala Ala Ala Ile
195 200 205

Gln Lys Glu Tyr Ala Pro Glu Leu Ser Lys Asn Leu Leu Gly Ala Ala
210 215 220

Leu Gly Gly Phe Val Thr Asn Ile Thr Ala Thr Ala Glu Ala Val Asp
225 230 235 240

Ser Gly Pro Phe Ala Gly Ile Ile Ser Asn Ala Leu Ala Gly Ile Gly
245 250 255

Asn Glu Tyr Pro Asp Phe Lys Asn Tyr Leu Leu Lys Lys Val Ser Pro
260 265 270

Leu Leu Ser Ile Thr Tyr Arg Leu Gly Asn Thr His Cys Leu Leu Asp
275 280 285

Gly Gly Ile Ala Tyr Phe Gly Lys Ser Phe Phe Ser Arg Ile Ile Arg
290 295 300

Tyr Phe Pro Asp Gly Trp Asp Leu Val Asn Gln Glu Pro Ile Lys Thr
305 310 315 320

Ile Leu Gln Asp Asn Gly Leu Val Tyr Gln Pro Lys Asp Leu Thr Pro

	325	330	335
Gln Ile Pro Leu Phe Ile Tyr His Gly Thr Leu Asp Ala Ile Val Pro			
	340	345	350
Ile Val Asn Ser Arg Lys Thr Phe Gln Gln Trp Cys Asp Trp Gly Leu			
	355	360	365
Lys Ser Gly Glu Tyr Asn Glu Asp Leu Thr Asn Gly His Ile Thr Glu			
	370	375	380
Ser Ile Val Gly Ala Pro Ala Ala Leu Thr Trp Ile Ile Asn Arg Phe			
	385	390	395
			400
Asn Gly Gln Pro Pro Val Asp Gly Cys Gln His Asn Val Arg Ala Ser			
	405	410	415
Asn Leu Glu Tyr Pro Gly Thr Pro Gln Ser Ile Lys Asn Tyr Phe Glu			
	420	425	430
Ala Ala Leu His Ala Ile Leu Gly Phe Asp Leu Gly Pro Asp Val Lys			
	435	440	445
Arg Asp Lys Val Thr Leu Gly Gly Leu Leu Lys Leu Glu Arg Phe Ala			
	450	455	460

Phe

465

<210> 18

<211> 471

<212> PRT

<213> Candida parapsilosis

<400> 18

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

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

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

Asn Val Pro Asn Pro Leu Thr Asn Val Phe Thr Pro Val Lys Val Gln
50 55 60

Asn Ala Trp Gln Leu Leu Val Arg Ser Glu Asp Thr Phe Gly Asn Pro
65 70 75 80

Asn Ala Ile Val Thr Thr Ile Ile Gln Pro Phe Asn Ala Lys Lys Asp
85 90 95

Lys Leu Val Ser Tyr Gln Thr Phe Glu Asp Ser Gly Lys Leu Asp Cys
100 105 110

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

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

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

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

Lys Ser Gly Asn Leu Thr Gly Val Ser Ser Asp Ala Glu Thr Leu Leu
180 185 190

Trp Gly Tyr Ser Gly Gly Ser Leu Ala Ser Gly Trp Ala Ala Ala Ile
195 200 205

Gln Lys Glu Tyr Ala Pro Glu Leu Ser Lys Asn Leu Leu Gly Ala Ala

210	215	220	
Leu Gly Gly Phe Val Thr Asn Ile Thr Ala Thr Ala Glu Ala Val Asp			
225	230	235	240
Ser Gly Pro Phe Ala Gly Ile Ile Ser Asn Ala Leu Ala Gly Ile Gly			
	245	250	255
Asn Glu Tyr Pro Asp Phe Lys Asn Tyr Leu Leu Lys Lys Val Ser Pro			
	260	265	270
Leu Leu Ser Ile Thr Tyr Arg Leu Gly Asn Thr His Cys Leu Leu Asp			
	275	280	285
Gly Gly Ile Ala Tyr Phe Gly Lys Ser Phe Phe Ser Arg Ile Ile Arg			
	290	295	300
Tyr Phe Pro Asp Gly Trp Asp Leu Val Asn Gln Glu Pro Ile Lys Thr			
305	310	315	320
Ile Leu Gln Asp Asn Gly Leu Val Tyr Gln Pro Lys Asp Leu Thr Pro			
	325	330	335
Gln Ile Pro Leu Phe Ile Tyr His Gly Thr Leu Asp Ala Ile Val Pro			
	340	345	350

Ile Val Asn Ser Arg Lys Thr Phe Gln Gln Trp Cys Asp Trp Gly Leu
355 360 365

Lys Ser Gly Glu Tyr Asn Glu Asp Leu Thr Asn Gly His Ile Thr Glu
370 375 380

Ser Ile Val Gly Ala Pro Ala Ala Leu Thr Trp Ile Ile Asn Arg Phe
385 390 395 400

Asn Gly Gln Pro Pro Val Asp Gly Cys Gln His Asn Val Arg Ala Ser
405 410 415

Asn Leu Glu Tyr Pro Gly Thr Pro Gln Ser Ile Lys Asn Tyr Phe Glu
420 425 430

Ala Ala Leu His Ala Ile Leu Gly Phe Asp Leu Gly Pro Asp Val Lys
435 440 445

Arg Asp Lys Val Thr Leu Gly Gly Leu Leu Lys Leu Glu Arg Phe Ala
450 455 460

Phe His His His His His His
465 470

<210> 19
<211> 261
<212> PRT
<213> Streptomyces coelicolor

<400> 19

Met Ile Gly Ser Tyr Val Ala Val Gly Asp Ser Phe Thr Glu Gly Val
1 5 10 15

Gly Asp Pro Gly Pro Asp Gly Ala Phe Val Gly Trp Ala Asp Arg Leu
20 25 30

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

Asn Leu Ala Val Arg Gly Arg Leu Leu Asp Gln Ile Val Ala Glu Gln
50 55 60

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

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

Glu Arg Phe Glu Leu Ala Val Ala Ala Leu Thr Ala Ala Ala Gly Thr

[illegible]

His Val Thr Ala Lys Gly Thr Leu Ser Pro Asp Ala Ile Lys Thr Arg

245

250

255

Ile Ala Ala Val Ala

260

<210> 20

<211> 4

<212> PRT

<213> Secuencia artificial

<220>

<223> Motivo péptido

<220>

<221> misc_característica

<222> (4)..(4)

<223> Xaa puede ser cualquier aminoácido de origen natural

<400> 20

Gly Asp Ser Xaa

1

<210> 21

<211> 18

<212> PRT

<213> Aeromonas sp.

<400> 21

Met Lys Lys Trp Phe Val Cys Leu Leu Gly Leu Ile Ala Leu Thr Val

1 5 10 15

Gln Ala

<210> 22

<211> 29

<212> PRT

<213> Bacillus subtilis

<400> 22

Met Arg Ser Lys Lys Leu Trp Ile Ser Leu Leu Phe Ala Leu Thr Leu

1 5 10 15

Ile Phe Thr Met Ala Phe Ser Asn Met Ser Ala Gln Ala

20 25

<210> 23

<211> 29

<212> PRT

<213> Bacillus licheniformis

<400> 23

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

Leu Val Phe Thr Met Glu Phe Ser Asp Ser Ala Ser Ala
20 25

<210> 24

<211> 5

<212> PRT

<213> Secuencia artificial

<220>

<223> Motivo péptido

<400> 24

Gly Ala Asn Asp Tyr
1 5

<210> 25

<211> 347

<212> PRT

<213> Secuencia artificial

<220>

<223> Constructo de fusión

<400> 25

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

Met Ser Ile Ser Leu Phe Ser Ala Thr Ala Ser Ala Ala Ser Ala Asp
20 25 30

Ser Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly Asp Ser Leu Ser
35 40 45

Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro Ser Ser
50 55 60

Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp Leu Glu
65 70 75 80

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

Gly Gly Ala Thr Ala Val Ala Tyr Asn Lys Ile Ser Trp Asn Pro Lys
100 105 110

Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe Leu Gln
115 120 125

Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu Trp Val Gly Ala

130	135	140	
Asn Asp Tyr Leu Ala Tyr Gly Trp Asn Thr Glu Gln Asp Ala Lys Arg			
145	150	155	160
Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met Val Leu Asn Gly			
	165	170	175
Ala Lys Gln Ile Leu Leu Phe Asn Leu Pro Asp Leu Gly Gln Asn Pro			
	180	185	190
Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser His Val Ser Ala			
	195	200	205
Tyr His Asn Gln Leu Leu Leu Asn Leu Ala Arg Gln Leu Ala Pro Thr			
	210	215	220
Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe Ala Glu Met Leu			
225	230	235	240
Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu Asn Pro Cys Tyr			
	245	250	255
Asp Gly Gly Tyr Val Trp Lys Pro Phe Ala Thr Arg Ser Val Ser Thr			
	260	265	270

Asp Arg Gln Leu Ser Ala Phe Ser Pro Gln Glu Arg Leu Ala Ile Ala
275 280 285

Gly Asn Pro Leu Leu Ala Gln Ala Val Ala Ser Pro Met Ala Arg Arg
290 295 300

Ser Ala Ser Pro Leu Asn Cys Glu Gly Lys Met Phe Trp Asp Gln Val
305 310 315 320

His Pro Thr Thr Val Val His Ala Ala Leu Ser Glu Arg Ala Ala Thr
325 330 335

Phe Ile Ala Asn Gln Tyr Glu Phe Leu Ala His
340 345

<210> 26

<211> 267

<212> PRT

<213> Streptomyces sp.

<400> 26

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

Leu Leu Leu Ala Leu Leu Gly Ile Ser Pro Ala Gln Ala Ala Gly Pro
20 25 30

Ala Tyr Val Ala Leu Gly Asp Ser Tyr Ser Ser Gly Asn Gly Ala Gly
35 40 45

Ser Tyr Ile Asp Ser Ser Gly Asp Cys His Arg Ser Asn Asn Ala Tyr
50 55 60

Pro Ala Arg Trp Ala Ala Ala Asn Ala Pro Ser Ser Phe Thr Phe Ala
65 70 75 80

Ala Cys Ser Gly Ala Val Thr Thr Asp Val Ile Asn Asn Gln Leu Gly
85 90 95

Ala Leu Asn Ala Ser Thr Gly Leu Val Ser Ile Thr Ile Gly Gly Asn
100 105 110

Asp Ala Gly Phe Ala Asp Ala Met Thr Thr Cys Val Thr Ser Ser Asp
115 120 125

Ser Thr Cys Leu Asn Arg Leu Ala Thr Ala Thr Asn Tyr Ile Asn Thr
130 135 140

Thr Leu Leu Ala Arg Leu Asp Ala Val Tyr Ser Gln Ile Lys Ala Arg

145 150 155 160

Ala Pro Asn Ala Arg Val Val Val Leu Gly Tyr Pro Arg Met Tyr Leu
165 170 175

Ala Ser Asn Pro Trp Tyr Cys Leu Gly Leu Ser Asn Thr Lys Arg Ala
180 185 190

Ala Ile Asn Thr Thr Ala Asp Thr Leu Asn Ser Val Ile Ser Ser Arg
195 200 205

Ala Thr Ala His Gly Phe Arg Phe Gly Asp Val Arg Pro Thr Phe Asn
210 215 220

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

Pro Val Trp Glu Ser Tyr His Pro Thr Ser Thr Gly His Gln Ser Gly
245 250 255

Tyr Leu Pro Val Leu Asn Ala Asn Ser Ser Thr
260 265

<210> 27

<211> 548

<212> PRT

<213> Thermobifida sp.

<400> 27

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

Ala Leu Leu Val Gly Thr Pro Gln Asp Arg Arg Leu Arg Leu Glu Cys
20 25 30

His Glu Thr Arg Pro Leu Arg Gly Arg Cys Gly Cys Gly Glu Arg Arg
35 40 45

Val Pro Pro Leu Thr Leu Pro Gly Asp Gly Val Leu Cys Thr Thr Ser
50 55 60

Ser Thr Arg Asp Ala Glu Thr Val Trp Arg Lys His Leu Gln Pro Arg
65 70 75 80

Pro Asp Gly Gly Phe Arg Pro His Leu Gly Val Gly Cys Leu Leu Ala
85 90 95

Gly Gln Gly Ser Pro Gly Val Leu Trp Cys Gly Arg Glu Gly Cys Arg
100 105 110

Phe Glu Val Cys Arg Arg Asp Thr Pro Gly Leu Ser Arg Thr Arg Asn
115 120 125

Gly Asp Ser Ser Pro Pro Phe Arg Ala Gly Trp Ser Leu Pro Pro Lys
130 135 140

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

Tyr Ser Leu Leu Arg Thr Asp Arg Pro Asp Gly Pro Arg Gly Arg Phe
165 170 175

Val Gly Ser Gly Pro Arg Ala Ala Thr Arg Arg Arg Leu Phe Leu Gly
180 185 190

Ile Pro Ala Leu Val Leu Val Thr Ala Leu Thr Leu Val Leu Ala Val
195 200 205

Pro Thr Gly Arg Glu Thr Leu Trp Arg Met Trp Cys Glu Ala Thr Gln
210 215 220

Asp Trp Cys Leu Gly Val Pro Val Asp Ser Arg Gly Gln Pro Ala Glu
225 230 235 240

Asp Gly Glu Phe Leu Leu Leu Ser Pro Val Gln Ala Ala Thr Trp Gly

	245	250	255
Asn Tyr Tyr Ala Leu Gly Asp Ser Tyr Ser Ser Gly Asp Gly Ala Arg			
	260	265	270
Asp Tyr Tyr Pro Gly Thr Ala Val Lys Gly Gly Cys Trp Arg Ser Ala			
	275	280	285
Asn Ala Tyr Pro Glu Leu Val Ala Glu Ala Tyr Asp Phe Ala Gly His			
	290	295	300
Leu Ser Phe Leu Ala Cys Ser Gly Gln Arg Gly Tyr Ala Met Leu Asp			
305	310	315	320
Ala Ile Asp Glu Val Gly Ser Gln Leu Asp Trp Asn Ser Pro His Thr			
	325	330	335
Ser Leu Val Thr Ile Gly Ile Gly Gly Asn Asp Leu Gly Phe Ser Thr			
	340	345	350
Val Leu Lys Thr Cys Met Val Arg Val Pro Leu Leu Asp Ser Lys Ala			
	355	360	365
Cys Thr Asp Gln Glu Asp Ala Ile Arg Lys Arg Met Ala Lys Phe Glu			
	370	375	380

Thr Thr Phe Glu Glu Leu Ile Ser Glu Val Arg Thr Arg Ala Pro Asp
385 390 395 400

Ala Arg Ile Leu Val Val Gly Tyr Pro Arg Ile Phe Pro Glu Glu Pro
405 410 415

Thr Gly Ala Tyr Tyr Thr Leu Thr Ala Ser Asn Gln Arg Trp Leu Asn
420 425 430

Glu Thr Ile Gln Glu Phe Asn Gln Gln Leu Ala Glu Ala Val Ala Val
435 440 445

His Asp Glu Glu Ile Ala Ala Ser Gly Gly Val Gly Ser Val Glu Phe
450 455 460

Val Asp Val Tyr His Ala Leu Asp Gly His Glu Ile Gly Ser Asp Glu
465 470 475 480

Pro Trp Val Asn Gly Val Gln Leu Arg Asp Leu Ala Thr Gly Val Thr
485 490 495

Val Asp Arg Ser Thr Phe His Pro Asn Ala Ala Gly His Arg Ala Val
500 505 510

Gly Glu Arg Val Ile Glu Gln Ile Glu Thr Gly Pro Gly Arg Pro Leu
515 520 525

Tyr Ala Thr Phe Ala Val Val Ala Gly Ala Thr Val Asp Thr Leu Ala
530 535 540

Gly Glu Val Gly
545

<210> 28
<211> 372
<212> PRT
<213> Thermobifida sp.

<400> 28

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

Ile Pro Ala Leu Val Leu Val Thr Ala Leu Thr Leu Val Leu Ala Val
20 25 30

Pro Thr Gly Arg Glu Thr Leu Trp Arg Met Trp Cys Glu Ala Thr Gln
35 40 45

Asp Trp Cys Leu Gly Val Pro Val Asp Ser Arg Gly Gln Pro Ala Glu

50	55	60	
Asp Gly Glu Phe Leu Leu Leu Ser Pro Val Gln Ala Ala Thr Trp Gly			
65	70	75	80
Asn Tyr Tyr Ala Leu Gly Asp Ser Tyr Ser Ser Gly Asp Gly Ala Arg			
	85	90	95
Asp Tyr Tyr Pro Gly Thr Ala Val Lys Gly Gly Cys Trp Arg Ser Ala			
	100	105	110
Asn Ala Tyr Pro Glu Leu Val Ala Glu Ala Tyr Asp Phe Ala Gly His			
	115	120	125
Leu Ser Phe Leu Ala Cys Ser Gly Gln Arg Gly Tyr Ala Met Leu Asp			
	130	135	140
Ala Ile Asp Glu Val Gly Ser Gln Leu Asp Trp Asn Ser Pro His Thr			
145	150	155	160
Ser Leu Val Thr Ile Gly Ile Gly Gly Asn Asp Leu Gly Phe Ser Thr			
	165	170	175
Val Leu Lys Thr Cys Met Val Arg Val Pro Leu Leu Asp Ser Lys Ala			
	180	185	190

Cys Thr Asp Gln Glu Asp Ala Ile Arg Lys Arg Met Ala Lys Phe Glu
195 200 205

Thr Thr Phe Glu Glu Leu Ile Ser Glu Val Arg Thr Arg Ala Pro Asp
210 215 220

Ala Arg Ile Leu Val Val Gly Tyr Pro Arg Ile Phe Pro Glu Glu Pro
225 230 235 240

Thr Gly Ala Tyr Tyr Thr Leu Thr Ala Ser Asn Gln Arg Trp Leu Asn
245 250 255

Glu Thr Ile Gln Glu Phe Asn Gln Gln Leu Ala Glu Ala Val Ala Val
260 265 270

His Asp Glu Glu Ile Ala Ala Ser Gly Gly Val Gly Ser Val Glu Phe
275 280 285

Val Asp Val Tyr His Ala Leu Asp Gly His Glu Ile Gly Ser Asp Glu
290 295 300

Pro Trp Val Asn Gly Val Gln Leu Arg Asp Leu Ala Thr Gly Val Thr
305 310 315 320

Val Asp Arg Ser Thr Phe His Pro Asn Ala Ala Gly His Arg Ala Val
325 330 335

Gly Glu Arg Val Ile Glu Gln Ile Glu Thr Gly Pro Gly Arg Pro Leu
340 345 350

Tyr Ala Thr Phe Ala Val Val Ala Gly Ala Thr Val Asp Thr Leu Ala
355 360 365

Gly Glu Val Gly
370

<210> 29

<211> 300

<212> PRT

<213> *Corynebacterium efficiens*

<400> 29

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

Cys Ala Asp Gly Ala Arg Glu Glu Thr Ala Gly Ala Pro Pro Gly Glu
20 25 30

Ser Ser Gly Gly Ile Arg Glu Glu Gly Ala Glu Ala Ser Thr Ser Ile

35	40	45
Thr Asp Val Tyr Ile Ala Leu Gly Asp Ser Tyr Ala Ala Met Gly Gly		
50	55	60
Arg Asp Gln Pro Leu Arg Gly Glu Pro Phe Cys Leu Arg Ser Ser Gly		
65	70	75 80
Asn Tyr Pro Glu Leu Leu His Ala Glu Val Thr Asp Leu Thr Cys Gln		
85	90	95
Gly Ala Val Thr Gly Asp Leu Leu Glu Pro Arg Thr Leu Gly Glu Arg		
100	105	110
Thr Leu Pro Ala Gln Val Asp Ala Leu Thr Glu Asp Thr Thr Leu Val		
115	120	125
Thr Leu Ser Ile Gly Gly Asn Asp Leu Gly Phe Gly Glu Val Ala Gly		
130	135	140
Cys Ile Arg Glu Arg Ile Ala Gly Glu Asn Ala Asp Asp Cys Val Asp		
145	150	155 160
Leu Leu Gly Glu Thr Ile Gly Glu Gln Leu Asp Gln Leu Pro Pro Gln		
165	170	175

Leu Asp Arg Val His Glu Ala Ile Arg Asp Arg Ala Gly Asp Ala Gln

180

185

190

Val Val Val Thr Gly Tyr Leu Pro Leu Val Ser Ala Gly Asp Cys Pro

195

200

205

Glu Leu Gly Asp Val Ser Glu Ala Asp Arg Arg Trp Ala Val Glu Leu

210

215

220

Thr Gly Gln Ile Asn Glu Thr Val Arg Glu Ala Ala Glu Arg His Asp

225

230

235

240

Ala Leu Phe Val Leu Pro Asp Asp Ala Asp Glu His Thr Ser Cys Ala

245

250

255

Pro Pro Gln Gln Arg Trp Ala Asp Ile Gln Gly Gln Gln Thr Asp Ala

260

265

270

Tyr Pro Leu His Pro Thr Ser Ala Gly His Glu Ala Met Ala Ala Ala

275

280

285

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

290

295

300

<210> 30

<211> 284

<212> PRT

<213> Novosphingobium aromaticivorans

<400> 30

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

Ala Leu Ala Gly Leu Ala Pro Ala Ala Thr Val Ala Arg Glu Ala Pro
20 25 30

Leu Ala Glu Gly Ala Arg Tyr Val Ala Leu Gly Ser Ser Phe Ala Ala
35 40 45

Gly Pro Gly Val Gly Pro Asn Ala Pro Gly Ser Pro Glu Arg Cys Gly
50 55 60

Arg Gly Thr Leu Asn Tyr Pro His Leu Leu Ala Glu Ala Leu Lys Leu
65 70 75 80

Asp Leu Val Asp Ala Thr Cys Ser Gly Ala Thr Thr His His Val Leu
85 90 95

Gly Pro Trp Asn Glu Val Pro Pro Gln Ile Asp Ser Val Asn Gly Asp

	100		105		110
Thr Arg Leu Val Thr Leu Thr Ile Gly Gly Asn Asp Val Ser Phe Val					
	115		120		125
Gly Asn Ile Phe Ala Ala Ala Cys Glu Lys Met Ala Ser Pro Asp Pro					
	130		135		140
Arg Cys Gly Lys Trp Arg Glu Ile Thr Glu Glu Glu Trp Gln Ala Asp					
145		150		155	160
Glu Glu Arg Met Arg Ser Ile Val Arg Gln Ile His Ala Arg Ala Pro					
	165		170		175
Leu Ala Arg Val Val Val Val Asp Tyr Ile Thr Val Leu Pro Pro Ser					
	180		185		190
Gly Thr Cys Ala Ala Met Ala Ile Ser Pro Asp Arg Leu Ala Gln Ser					
	195		200		205
Arg Ser Ala Ala Lys Arg Leu Ala Arg Ile Thr Ala Arg Val Ala Arg					
	210		215		220
Glu Glu Gly Ala Ser Leu Leu Lys Phe Ser His Ile Ser Arg Arg His					
225		230		235	240

His Pro Cys Ser Ala Lys Pro Trp Ser Asn Gly Leu Ser Ala Pro Ala
245 250 255

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

Ala Ala Ala Leu Val Lys Leu Val Lys Leu Met Lys
275 280

<210> 31

<211> 268

<212> PRT

<213> Streptomyces coelicolor

<400> 31

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

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

Ala Ala Ala Asp Gly Tyr Val Ala Leu Gly Asp Ser Tyr Ser Ser Gly
35 40 45

Val Gly Ala Gly Ser Tyr Ile Ser Ser Ser Gly Asp Cys Lys Arg Ser
50 55 60

Thr Lys Ala His Pro Tyr Leu Trp Ala Ala Ala His Ser Pro Ser Thr
65 70 75 80

Phe Asp Phe Thr Ala Cys Ser Gly Ala Arg Thr Gly Asp Val Leu Ser
85 90 95

Gly Gln Leu Gly Pro Leu Ser Ser Gly Thr Gly Leu Val Ser Ile Ser
100 105 110

Ile Gly Gly Asn Asp Ala Gly Phe Ala Asp Thr Met Thr Thr Cys Val
115 120 125

Leu Gln Ser Glu Ser Ser Cys Leu Ser Arg Ile Ala Thr Ala Glu Ala
130 135 140

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

Ile Ser Asp Lys Ala Pro Asn Ala His Val Val Val Ile Gly Tyr Pro
165 170 175

Arg Phe Tyr Lys Leu Gly Thr Thr Cys Ile Gly Leu Ser Glu Thr Lys

	180	185	190
Arg Thr Ala Ile Asn Lys Ala Ser Asp His Leu Asn Thr Val Leu Ala			
195	200	205	
Gln Arg Ala Ala Ala His Gly Phe Thr Phe Gly Asp Val Arg Thr Thr			
210	215	220	
Phe Thr Gly His Glu Leu Cys Ser Gly Ser Pro Trp Leu His Ser Val			
225	230	235	240
Asn Trp Leu Asn Ile Gly Glu Ser Tyr His Pro Thr Ala Ala Gly Gln			
245	250	255	
Ser Gly Gly Tyr Leu Pro Val Leu Asn Gly Ala Ala			
260	265		
<210> 32			
<211> 269			
<212> PRT			
<213> Streptomyces avermitilis			
<400> 32			
Met Arg Arg Ser Arg Ile Thr Ala Tyr Val Thr Ser Leu Leu Leu Ala			
1	5	10	15

Val Gly Cys Ala Leu Thr Gly Ala Ala Thr Ala Gln Ala Ser Pro Ala

20

25

30

Ala Ala Ala Thr Gly Tyr Val Ala Leu Gly Asp Ser Tyr Ser Ser Gly

35

40

45

Val Gly Ala Gly Ser Tyr Leu Ser Ser Ser Gly Asp Cys Lys Arg Ser

50

55

60

Ser Lys Ala Tyr Pro Tyr Leu Trp Gln Ala Ala His Ser Pro Ser Ser

65

70

75

80

Phe Ser Phe Met Ala Cys Ser Gly Ala Arg Thr Gly Asp Val Leu Ala

85

90

95

Asn Gln Leu Gly Thr Leu Asn Ser Ser Thr Gly Leu Val Ser Leu Thr

100

105

110

Ile Gly Gly Asn Asp Ala Gly Phe Ser Asp Val Met Thr Thr Cys Val

115

120

125

Leu Gln Ser Asp Ser Ala Cys Leu Ser Arg Ile Asn Thr Ala Lys Ala

130

135

140

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

Ile Ser Thr Lys Ala Pro Ser Ala His Val Ala Val Leu Gly Tyr Pro
165 170 175

Arg Phe Tyr Lys Leu Gly Gly Ser Cys Leu Ala Gly Leu Ser Glu Thr
180 185 190

Lys Arg Ser Ala Ile Asn Asp Ala Ala Asp Tyr Leu Asn Ser Ala Ile
195 200 205

Ala Lys Arg Ala Ala Asp His Gly Phe Thr Phe Gly Asp Val Lys Ser
210 215 220

Thr Phe Thr Gly His Glu Ile Cys Ser Ser Ser Thr Trp Leu His Ser
225 230 235 240

Leu Asp Leu Leu Asn Ile Gly Gln Ser Tyr His Pro Thr Ala Ala Gly
245 250 255

Gln Ser Gly Gly Tyr Leu Pro Val Met Asn Ser Val Ala
260 265

<211> 267

<212> PRT

<213> Streptomyces sp.

<400> 33

Met Arg Leu Thr Arg Ser Leu Ser Ala Ala Ser Val Ile Val Phe Ala

1 5 10 15

Leu Leu Leu Ala Leu Leu Gly Ile Ser Pro Ala Gln Ala Ala Gly Pro

20 25 30

Ala Tyr Val Ala Leu Gly Asp Ser Tyr Ser Ser Gly Asn Gly Ala Gly

35 40 45

Ser Tyr Ile Asp Ser Ser Gly Asp Cys His Arg Ser Asn Asn Ala Tyr

50 55 60

Pro Ala Arg Trp Ala Ala Ala Asn Ala Pro Ser Ser Phe Thr Phe Ala

65 70 75 80

Ala Cys Ser Gly Ala Val Thr Thr Asp Val Ile Asn Asn Gln Leu Gly

85 90 95

Ala Leu Asn Ala Ser Thr Gly Leu Val Ser Ile Thr Ile Gly Gly Asn

100 105 110

Asp Ala Gly Phe Ala Asp Ala Met Thr Thr Cys Val Thr Ser Ser Asp
115 120 125

Ser Thr Cys Leu Asn Arg Leu Ala Thr Ala Thr Asn Tyr Ile Asn Thr
130 135 140

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

Ala Pro Asn Ala Arg Val Val Val Leu Gly Tyr Pro Arg Met Tyr Leu
165 170 175

Ala Ser Asn Pro Trp Tyr Cys Leu Gly Leu Ser Asn Thr Lys Arg Ala
180 185 190

Ala Ile Asn Thr Thr Ala Asp Thr Leu Asn Ser Val Ile Ser Ser Arg
195 200 205

Ala Thr Ala His Gly Phe Arg Phe Gly Asp Val Arg Pro Thr Phe Asn
210 215 220

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

Pro Val Trp Glu Ser Tyr His Pro Thr Ser Thr Gly His Gln Ser Gly
245 250 255

Tyr Leu Pro Val Leu Asn Ala Asn Ser Ser Thr
260 265

<210> 34

<211> 317

<212> PRT

<213> Aeromonas hydrophila

<400> 34

Ala Asp Ser Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly Asp Ser
1 5 10 15

Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro
20 25 30

Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp
35 40 45

Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala Asn Glu
50 55 60

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

Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe
85 90 95

Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu Trp Val
100 105 110

Gly Ala Asn Asp Tyr Leu Ala Tyr Gly Trp Asn Thr Glu Gln Asp Ala
115 120 125

Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met Val Leu
130 135 140

Asn Gly Ala Lys Gln Ile Leu Leu Phe Asn Leu Pro Asp Leu Gly Gln
145 150 155 160

Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser His Val
165 170 175

Ser Ala Tyr His Asn Gln Leu Leu Leu Asn Leu Ala Arg Gln Leu Ala
180 185 190

Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe Ala Glu
195 200 205

Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu Asn Pro
210 215 220

Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ala Thr Arg Ser Val
225 230 235 240

Ser Thr Asp Arg Gln Leu Ser Ala Phe Ser Pro Gln Glu Arg Leu Ala
245 250 255

Ile Ala Gly Asn Pro Leu Leu Ala Gln Ala Val Ala Ser Pro Met Ala
260 265 270

Arg Arg Ser Ala Ser Pro Leu Asn Cys Glu Gly Lys Met Phe Trp Asp
275 280 285

Gln Val His Pro Thr Thr Val Val His Ala Ala Leu Ser Glu Arg Ala
290 295 300

Ala Thr Phe Ile Ala Asn Gln Tyr Glu Phe Leu Ala His
305 310 315

<210> 35

<211> 318

<212> PRT

<213> Aeromonas salmonicida

<400> 35

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

Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro
20 25 30

Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp
35 40 45

Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala Asn Glu
50 55 60

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

Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe
85 90 95

Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu Trp Val
100 105 110

Gly Ala Asn Asp Tyr Leu Ala Tyr Gly Trp Asn Thr Glu Gln Asp Ala
115 120 125

Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met Val Leu
130 135 140

Asn Gly Ala Lys Gln Ile Leu Leu Phe Asn Leu Pro Asp Leu Gly Gln
145 150 155 160

Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser His Val
165 170 175

Ser Ala Tyr His Asn Lys Leu Leu Leu Asn Leu Ala Arg Gln Leu Ala
180 185 190

Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe Ala Glu
195 200 205

Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu Asn Pro
210 215 220

Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ala Thr Arg Ser Val
225 230 235 240

Ser Thr Asp Arg Gln Leu Ser Ala Phe Ser Pro Gln Glu Arg Leu Ala
245 250 255

Ile Ala Gly Asn Pro Leu Leu Ala Gln Ala Val Ala Ser Pro Met Ala

260 265 270

Arg Arg Ser Ala Ser Pro Leu Asn Cys Glu Gly Lys Met Phe Trp Asp

275 280 285

Gln Val His Pro Thr Thr Val Val His Ala Ala Leu Ser Glu Arg Ala

290 295 300

Ala Thr Phe Ile Glu Thr Gln Tyr Glu Phe Leu Ala His Gly

305 310 315

<210> 36

<211> 1371

<212> ADN

<213> Streptomyces thermosacchari

<400> 36

acaggccgat gcacggaacc gtacctttcc gcagtgaagc gctctcccc catcgttcgc 60

cgggacttca tccgcgattt tggcatgaac acttccttca acgcgcgtag cttgctacaa 120

gtgcggcagc agaccgcgtc gttggaggct cagtgaagatt gaccgatcc ctgtcggccg 180

catccgtcat cgtcttcgcc ctgctgctcg cgctgctggg catcagccc gcccaggcag 240

ccggcccggc ctatgtggcc ctgggggatt cctattcctc gggcaacggc gccggaagtt 300

acatcgattc gagcggtagac tgtcacgcga gcaacaacgc gtaccccgcc cgctgggcgg	360
cgccaacgc accgtcctcc ttcaccttcg cggcctgctc gggagcggtag accacggatg	420
tgatcaacaa tcagctgggc gccctcaacg cgtccaccgg cctggtgagc atcaccatcg	480
gcggcaatga cgcgggcttc gcggacgcga tgaccacctg cgtcaccagc tcggacagca	540
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tcgacgcggt ctacagccag atcaaggccc gtgcccccaa cggccgcgtg gtcgtcctcg	660
gtaccccgcg catgtacctg gcctcgaacc cctggtactg cctgggcctg agcaacacca	720
agcgcgcggc catcaacacc accgccgaca ccctcaactc ggtgatctcc tcccgggcca	780
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gcacgggcca tcagagcggc tatctgccgg tcctcaacgc caacagctcg acctgatcaa	960
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cgcagccgg tcccgcgga actcggtagg gatgtccgtg cccaaggtag tcccggtagt	1320

gtccgagagc accgggggct cgtaccggat gatgtgcaga tccaaagaat t

1371

<210> 37

<211> 267

<212> PRT

<213> Streptomyces thermosacchari

<400> 37

Met Arg Leu Thr Arg Ser Leu Ser Ala Ala Ser Val Ile Val Phe Ala

1 5 10 15

Leu Leu Leu Ala Leu Leu Gly Ile Ser Pro Ala Gln Ala Ala Gly Pro

20 25 30

Ala Tyr Val Ala Leu Gly Asp Ser Tyr Ser Ser Gly Asn Gly Ala Gly

35 40 45

Ser Tyr Ile Asp Ser Ser Gly Asp Cys His Arg Ser Asn Asn Ala Tyr

50 55 60

Pro Ala Arg Trp Ala Ala Ala Asn Ala Pro Ser Ser Phe Thr Phe Ala

65 70 75 80

Ala Cys Ser Gly Ala Val Thr Thr Asp Val Ile Asn Asn Gln Leu Gly

85 90 95

Ala Leu Asn Ala Ser Thr Gly Leu Val Ser Ile Thr Ile Gly Gly Asn

100

105

110

Asp Ala Gly Phe Ala Asp Ala Met Thr Thr Cys Val Thr Ser Ser Asp

115

120

125

Ser Thr Cys Leu Asn Arg Leu Ala Thr Ala Thr Asn Tyr Ile Asn Thr

130

135

140

Thr Leu Leu Ala Arg Leu Asp Ala Val Tyr Ser Gln Ile Lys Ala Arg

145

150

155

160

Ala Pro Asn Ala Arg Val Val Val Leu Gly Tyr Pro Arg Met Tyr Leu

165

170

175

Ala Ser Asn Pro Trp Tyr Cys Leu Gly Leu Ser Asn Thr Lys Arg Ala

180

185

190

Ala Ile Asn Thr Thr Ala Asp Thr Leu Asn Ser Val Ile Ser Ser Arg

195

200

205

Ala Thr Ala His Gly Phe Arg Phe Gly Asp Val Arg Pro Thr Phe Asn

210

215

220

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

Pro Val Trp Glu Ser Tyr His Pro Thr Ser Thr Gly His Gln Ser Gly
245 250 255

Tyr Leu Pro Val Leu Asn Ala Asn Ser Ser Thr
260 265

<210> 38

<211> 548

<212> PRT

<213> Thermobifida fusca

<400> 38

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

Ala Leu Leu Val Gly Thr Pro Gln Asp Arg Arg Leu Arg Leu Glu Cys
20 25 30

His Glu Thr Arg Pro Leu Arg Gly Arg Cys Gly Cys Gly Glu Arg Arg
35 40 45

Val Pro Pro Leu Thr Leu Pro Gly Asp Gly Val Leu Cys Thr Thr Ser

50	55	60
Ser Thr Arg Asp Ala Glu Thr Val Trp Arg Lys His Leu Gln Pro Arg		
65	70	75
Pro Asp Gly Gly Phe Arg Pro His Leu Gly Val Gly Cys Leu Leu Ala		
85	90	95
Gly Gln Gly Ser Pro Gly Val Leu Trp Cys Gly Arg Glu Gly Cys Arg		
100	105	110
Phe Glu Val Cys Arg Arg Asp Thr Pro Gly Leu Ser Arg Thr Arg Asn		
115	120	125
Gly Asp Ser Ser Pro Pro Phe Arg Ala Gly Trp Ser Leu Pro Pro Lys		
130	135	140
Cys Gly Glu Ile Ser Gln Ser Ala Arg Lys Thr Pro Ala Val Pro Arg		
145	150	155
Tyr Ser Leu Leu Arg Thr Asp Arg Pro Asp Gly Pro Arg Gly Arg Phe		
165	170	175
Val Gly Ser Gly Pro Arg Ala Ala Thr Arg Arg Arg Leu Phe Leu Gly		
180	185	190

Ile Pro Ala Leu Val Leu Val Thr Ala Leu Thr Leu Val Leu Ala Val

195

200

205

Pro Thr Gly Arg Glu Thr Leu Trp Arg Met Trp Cys Glu Ala Thr Gln

210

215

220

Asp Trp Cys Leu Gly Val Pro Val Asp Ser Arg Gly Gln Pro Ala Glu

225

230

235

240

Asp Gly Glu Phe Leu Leu Leu Ser Pro Val Gln Ala Ala Thr Trp Gly

245

250

255

Asn Tyr Tyr Ala Leu Gly Asp Ser Tyr Ser Ser Gly Asp Gly Ala Arg

260

265

270

Asp Tyr Tyr Pro Gly Thr Ala Val Lys Gly Gly Cys Trp Arg Ser Ala

275

280

285

Asn Ala Tyr Pro Glu Leu Val Ala Glu Ala Tyr Asp Phe Ala Gly His

290

295

300

Leu Ser Phe Leu Ala Cys Ser Gly Gln Arg Gly Tyr Ala Met Leu Asp

305

310

315

320

Ala Ile Asp Glu Val Gly Ser Gln Leu Asp Trp Asn Ser Pro His Thr
325 330 335

Ser Leu Val Thr Ile Gly Ile Gly Gly Asn Asp Leu Gly Phe Ser Thr
340 345 350

Val Leu Lys Thr Cys Met Val Arg Val Pro Leu Leu Asp Ser Lys Ala
355 360 365

Cys Thr Asp Gln Glu Asp Ala Ile Arg Lys Arg Met Ala Lys Phe Glu
370 375 380

Thr Thr Phe Glu Glu Leu Ile Ser Glu Val Arg Thr Arg Ala Pro Asp
385 390 395 400

Ala Arg Ile Leu Val Val Gly Tyr Pro Arg Ile Phe Pro Glu Glu Pro
405 410 415

Thr Gly Ala Tyr Tyr Thr Leu Thr Ala Ser Asn Gln Arg Trp Leu Asn
420 425 430

Glu Thr Ile Gln Glu Phe Asn Gln Gln Leu Ala Glu Ala Val Ala Val
435 440 445

His Asp Glu Glu Ile Ala Ala Ser Gly Gly Val Gly Ser Val Glu Phe
450 455 460

Val Asp Val Tyr His Ala Leu Asp Gly His Glu Ile Gly Ser Asp Glu
465 470 475 480

Pro Trp Val Asn Gly Val Gln Leu Arg Asp Leu Ala Thr Gly Val Thr
485 490 495

Val Asp Arg Ser Thr Phe His Pro Asn Ala Ala Gly His Arg Ala Val
500 505 510

Gly Glu Arg Val Ile Glu Gln Ile Glu Thr Gly Pro Gly Arg Pro Leu
515 520 525

Tyr Ala Thr Phe Ala Val Val Ala Gly Ala Thr Val Asp Thr Leu Ala
530 535 540

Gly Glu Val Gly
545

<210> 39

<211> 3000

<212> ADN

<213> Thermobifida fusca

<400> 39

ggtggtgaac cagaacaccc ggtcgtcggc gtgggcgtcc aggtgcaggt gcaggttctt	60
caactgctcc agcaggatgc cgccgtggcc gtgcacgatg gccttgggca ggctgtggt	120
ccccgacgag tacagcacc atagcggatg gtcgaacggc agcggggtga actccagttc	180
cgcgcttcg cccgcggctt cgaactccgc ccaggacagg gtgtcggcga cagggccgca	240
gcccaggtac ggcaggacga cgggtgtgctg caggctgggc atgccgtcgc gcagggcttt	300
gagcacgtca cggcggtcga agtccttacc gccgtagcgg tagccgtcca cggccagcag	360
cactttcggg togatctgcg cgaaccggtc gaggacgtg cgcaccccgga agtcggggga	420
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gagttcggac gcgtgccgga tcgccacggc tgatgggtca cggtcgcgga agatgtgctc	660
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cactgtggtg tacggggtg cggcgcgcac ccggtagtag tcccagatcg cggaccagaa	780
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tactacacgc tgaccgcgag caaccagcgg tggctcaacg aaaccattca ggagttcaac	2160
cagcagctcg ccgaggctgt cgcggtcac gacgaggaga ttgccgcgtc gggcggggtg	2220
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ggcagtgccg accgcgcagg cgagggcggt gccgccgaag gtgctgccgt gctggccggg	2880
gcggatcacg tcgaagactt ccgcgtcgcc taccgccgcc gccacgggca ggatgccgc	2940

gcccagcgct ttgccgaaca ggtagatatc ggcgctcgact ccgctgtggt cgcaggcccg 3000

<210> 40

<211> 372

<212> PRT

<213> Thermobifida fusca

<400> 40

Val Gly Ser Gly Pro Arg Ala Ala Thr Arg Arg Arg Leu Phe Leu Gly

1 5 10 15

Ile Pro Ala Leu Val Leu Val Thr Ala Leu Thr Leu Val Leu Ala Val

20 25 30

Pro Thr Gly Arg Glu Thr Leu Trp Arg Met Trp Cys Glu Ala Thr Gln

35 40 45

Asp Trp Cys Leu Gly Val Pro Val Asp Ser Arg Gly Gln Pro Ala Glu

50 55 60

Asp Gly Glu Phe Leu Leu Leu Ser Pro Val Gln Ala Ala Thr Trp Gly

65 70 75 80

Asn Tyr Tyr Ala Leu Gly Asp Ser Tyr Ser Ser Gly Asp Gly Ala Arg

85 90 95

Asp Tyr Tyr Pro Gly Thr Ala Val Lys Gly Gly Cys Trp Arg Ser Ala
100 105 110

Asn Ala Tyr Pro Glu Leu Val Ala Glu Ala Tyr Asp Phe Ala Gly His
115 120 125

Leu Ser Phe Leu Ala Cys Ser Gly Gln Arg Gly Tyr Ala Met Leu Asp
130 135 140

Ala Ile Asp Glu Val Gly Ser Gln Leu Asp Trp Asn Ser Pro His Thr
145 150 155 160

Ser Leu Val Thr Ile Gly Ile Gly Gly Asn Asp Leu Gly Phe Ser Thr
165 170 175

Val Leu Lys Thr Cys Met Val Arg Val Pro Leu Leu Asp Ser Lys Ala
180 185 190

Cys Thr Asp Gln Glu Asp Ala Ile Arg Lys Arg Met Ala Lys Phe Glu
195 200 205

Thr Thr Phe Glu Glu Leu Ile Ser Glu Val Arg Thr Arg Ala Pro Asp
210 215 220

Ala Arg Ile Leu Val Val Gly Tyr Pro Arg Ile Phe Pro Glu Glu Pro
225 230 235 240

Thr Gly Ala Tyr Tyr Thr Leu Thr Ala Ser Asn Gln Arg Trp Leu Asn
245 250 255

Glu Thr Ile Gln Glu Phe Asn Gln Gln Leu Ala Glu Ala Val Ala Val
260 265 270

His Asp Glu Glu Ile Ala Ala Ser Gly Gly Val Gly Ser Val Glu Phe
275 280 285

Val Asp Val Tyr His Ala Leu Asp Gly His Glu Ile Gly Ser Asp Glu
290 295 300

Pro Trp Val Asn Gly Val Gln Leu Arg Asp Leu Ala Thr Gly Val Thr
305 310 315 320

Val Asp Arg Ser Thr Phe His Pro Asn Ala Ala Gly His Arg Ala Val
325 330 335

Gly Glu Arg Val Ile Glu Gln Ile Glu Thr Gly Pro Gly Arg Pro Leu
340 345 350

Tyr Ala Thr Phe Ala Val Val Ala Gly Ala Thr Val Asp Thr Leu Ala

355

360

365

Gly Glu Val Gly

370

<210> 41

<211> 300

<212> PRT

<213> *Corynebacterium efficiens*

<400> 41

Met Arg Thr Thr Val Ile Ala Ala Ser Ala Leu Leu Leu Leu Ala Gly

1

5

10

15

Cys Ala Asp Gly Ala Arg Glu Glu Thr Ala Gly Ala Pro Pro Gly Glu

20

25

30

Ser Ser Gly Gly Ile Arg Glu Glu Gly Ala Glu Ala Ser Thr Ser Ile

35

40

45

Thr Asp Val Tyr Ile Ala Leu Gly Asp Ser Tyr Ala Ala Met Gly Gly

50

55

60

Arg Asp Gln Pro Leu Arg Gly Glu Pro Phe Cys Leu Arg Ser Ser Gly

65

70

75

80

Asn Tyr Pro Glu Leu Leu His Ala Glu Val Thr Asp Leu Thr Cys Gln

85

90

95

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

100

105

110

Thr Leu Pro Ala Gln Val Asp Ala Leu Thr Glu Asp Thr Thr Leu Val

115

120

125

Thr Leu Ser Ile Gly Gly Asn Asp Leu Gly Phe Gly Glu Val Ala Gly

130

135

140

Cys Ile Arg Glu Arg Ile Ala Gly Glu Asn Ala Asp Asp Cys Val Asp

145

150

155

160

Leu Leu Gly Glu Thr Ile Gly Glu Gln Leu Asp Gln Leu Pro Pro Gln

165

170

175

Leu Asp Arg Val His Glu Ala Ile Arg Asp Arg Ala Gly Asp Ala Gln

180

185

190

Val Val Val Thr Gly Tyr Leu Pro Leu Val Ser Ala Gly Asp Cys Pro

195

200

205

Glu Leu Gly Asp Val Ser Glu Ala Asp Arg Arg Trp Ala Val Glu Leu
 210 215 220

Thr Gly Gln Ile Asn Glu Thr Val Arg Glu Ala Ala Glu Arg His Asp
 225 230 235 240

Ala Leu Phe Val Leu Pro Asp Asp Ala Asp Glu His Thr Ser Cys Ala
 245 250 255

Pro Pro Gln Gln Arg Trp Ala Asp Ile Gln Gly Gln Gln Thr Asp Ala
 260 265 270

Tyr Pro Leu His Pro Thr Ser Ala Gly His Glu Ala Met Ala Ala Ala
 275 280 285

Val Arg Asp Ala Leu Gly Leu Glu Pro Val Gln Pro
 290 295 300

<210> 42
 <211> 3000
 <212> ADN
 <213> Corynebacterium efficiens

<400> 42
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gccccggtga gcggtgaatg aaatccggct gtaatcagca tcccgtgcc acccgtcgg	240
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gcgaaatgat caccggggag tgatacaccg gtggtctcat cccgatgcc cacttcggcg	420
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<211> 268

<212> PRT

<213> Streptomyces coelicolor

<400> 43

Met Arg Arg Phe Arg Leu Val Gly Phe Leu Ser Ser Leu Val Leu Ala
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Ala Gly Ala Ala Leu Thr Gly Ala Ala Thr Ala Gln Ala Ala Gln Pro
20 25 30

Ala Ala Ala Asp Gly Tyr Val Ala Leu Gly Asp Ser Tyr Ser Ser Gly
35 40 45

Val Gly Ala Gly Ser Tyr Ile Ser Ser Ser Gly Asp Cys Lys Arg Ser
50 55 60

Thr Lys Ala His Pro Tyr Leu Trp Ala Ala Ala His Ser Pro Ser Thr
65 70 75 80

Phe Asp Phe Thr Ala Cys Ser Gly Ala Arg Thr Gly Asp Val Leu Ser
85 90 95

Gly Gln Leu Gly Pro Leu Ser Ser Gly Thr Gly Leu Val Ser Ile Ser
100 105 110

Ile Gly Gly Asn Asp Ala Gly Phe Ala Asp Thr Met Thr Thr Cys Val
115 120 125

Leu Gln Ser Glu Ser Ser Cys Leu Ser Arg Ile Ala Thr Ala Glu Ala
130 135 140

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

Ile Ser Asp Lys Ala Pro Asn Ala His Val Val Val Ile Gly Tyr Pro
165 170 175

Arg Phe Tyr Lys Leu Gly Thr Thr Cys Ile Gly Leu Ser Glu Thr Lys
180 185 190

Arg Thr Ala Ile Asn Lys Ala Ser Asp His Leu Asn Thr Val Leu Ala
195 200 205

Gln Arg Ala Ala Ala His Gly Phe Thr Phe Gly Asp Val Arg Thr Thr
210 215 220

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

Asn Trp Leu Asn Ile Gly Glu Ser Tyr His Pro Thr Ala Ala Gly Gln
245 250 255

Ser Gly Gly Tyr Leu Pro Val Leu Asn Gly Ala Ala
260 265

<210> 44

<211> 2000

<212> ADN

<213> Streptomyces coelicolor

<400> 44

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caccgactgc gctgcggggc	2000

<210> 45

<211> 269

<212> PRT

<213> Streptomyces avermitilis

<400> 45

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

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

Ala	Ala	Ala	Thr	Gly	Tyr	Val	Ala	Leu	Gly	Asp	Ser	Tyr	Ser	Ser	Gly
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	35		40		45										
Val	Gly	Ala	Gly	Ser	Tyr	Leu	Ser	Ser	Ser	Gly	Asp	Cys	Lys	Arg	Ser
	50					55					60				
Ser	Lys	Ala	Tyr	Pro	Tyr	Leu	Trp	Gln	Ala	Ala	His	Ser	Pro	Ser	Ser
65					70				75					80	
Phe	Ser	Phe	Met	Ala	Cys	Ser	Gly	Ala	Arg	Thr	Gly	Asp	Val	Leu	Ala
			85					90					95		
Asn	Gln	Leu	Gly	Thr	Leu	Asn	Ser	Ser	Thr	Gly	Leu	Val	Ser	Leu	Thr
		100					105					110			
Ile	Gly	Gly	Asn	Asp	Ala	Gly	Phe	Ser	Asp	Val	Met	Thr	Thr	Cys	Val
	115						120				125				
Leu	Gln	Ser	Asp	Ser	Ala	Cys	Leu	Ser	Arg	Ile	Asn	Thr	Ala	Lys	Ala
	130					135				140					
Tyr	Val	Asp	Ser	Thr	Leu	Pro	Gly	Gln	Leu	Asp	Ser	Val	Tyr	Thr	Ala
145					150				155				160		
Ile	Ser	Thr	Lys	Ala	Pro	Ser	Ala	His	Val	Ala	Val	Leu	Gly	Tyr	Pro
			165					170					175		

Arg Phe Tyr Lys Leu Gly Gly Ser Cys Leu Ala Gly Leu Ser Glu Thr
180 185 190

Lys Arg Ser Ala Ile Asn Asp Ala Ala Asp Tyr Leu Asn Ser Ala Ile
195 200 205

Ala Lys Arg Ala Ala Asp His Gly Phe Thr Phe Gly Asp Val Lys Ser
210 215 220

Thr Phe Thr Gly His Glu Ile Cys Ser Ser Ser Thr Trp Leu His Ser
225 230 235 240

Leu Asp Leu Leu Asn Ile Gly Gln Ser Tyr His Pro Thr Ala Ala Gly
245 250 255

Gln Ser Gly Gly Tyr Leu Pro Val Met Asn Ser Val Ala
260 265

<210> 46

<211> 1980

<212> ADN

<213> Streptomyces avermitilis

<400> 46

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<210> 47

<211> 372

<212> PRT

<213> Thermobifida fusca

<400> 47

Met Gly Ser Gly Pro Arg Ala Ala Thr Arg Arg Arg Leu Phe Leu Gly

1 5 10 15

Ile Pro Ala Leu Val Leu Val Thr Ala Leu Thr Leu Val Leu Ala Val

20 25 30

Pro Thr Gly Arg Glu Thr Leu Trp Arg Met Trp Cys Glu Ala Thr Gln

35 40 45

Asp Trp Cys Leu Gly Val Pro Val Asp Ser Arg Gly Gln Pro Ala Glu

50 55 60

Asp Gly Glu Phe Leu Leu Leu Ser Pro Val Gln Ala Ala Thr Trp Gly

65 70 75 80

Asn Tyr Tyr Ala Leu Gly Asp Ser Tyr Ser Ser Gly Asp Gly Ala Arg

85 90 95

Asp Tyr Tyr Pro Gly Thr Ala Val Lys Gly Gly Cys Trp Arg Ser Ala

100 105 110

Asn Ala Tyr Pro Glu Leu Val Ala Glu Ala Tyr Asp Phe Ala Gly His
115 120 125

Leu Ser Phe Leu Ala Cys Ser Gly Gln Arg Gly Tyr Ala Met Leu Asp
130 135 140

Ala Ile Asp Glu Val Gly Ser Gln Leu Asp Trp Asn Ser Pro His Thr
145 150 155 160

Ser Leu Val Thr Ile Gly Ile Gly Gly Asn Asp Leu Gly Phe Ser Thr
165 170 175

Val Leu Lys Thr Cys Met Val Arg Val Pro Leu Leu Asp Ser Lys Ala
180 185 190

Cys Thr Asp Gln Glu Asp Ala Ile Arg Lys Arg Met Ala Lys Phe Glu
195 200 205

Thr Thr Phe Glu Glu Leu Ile Ser Glu Val Arg Thr Arg Ala Pro Asp
210 215 220

Ala Arg Ile Leu Val Val Gly Tyr Pro Arg Ile Phe Pro Glu Glu Pro
225 230 235 240

Thr Gly Ala Tyr Tyr Thr Leu Thr Ala Ser Asn Gln Arg Trp Leu Asn
245 250 255

Glu Thr Ile Gln Glu Phe Asn Gln Gln Leu Ala Glu Ala Val Ala Val
260 265 270

His Asp Glu Glu Ile Ala Ala Ser Gly Gly Val Gly Ser Val Glu Phe
275 280 285

Val Asp Val Tyr His Ala Leu Asp Gly His Glu Ile Gly Ser Asp Glu
290 295 300

Pro Trp Val Asn Gly Val Gln Leu Arg Asp Leu Ala Thr Gly Val Thr
305 310 315 320

Val Asp Arg Ser Thr Phe His Pro Asn Ala Ala Gly His Arg Ala Val
325 330 335

Gly Glu Arg Val Ile Glu Gln Ile Glu Thr Gly Pro Gly Arg Pro Leu
340 345 350

Tyr Ala Thr Phe Ala Val Val Ala Gly Ala Thr Val Asp Thr Leu Ala
355 360 365

Gly Glu Val Gly

370

<210> 48

<211> 968

<212> ADN

<213> Thermobifida fusca

<400> 48

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cgatcgccaa cgaggccgag gggggcgga cgcagtcgc ctacaacaag atctcctgga 240

accgaagta ccaggtcatt aacaacctcg actacgaggt caccagttc ttgcagaagg 300

actcgttcaa gcccgacgac ctggtcatcc tgtgggtggg cgccaacgac tacctggcct 360

acggttgaa cacggagcag gacgccaagc ggggtgcgga cgccatctcg gacgcgcaa 420

accgcatggt cctgaacggc ggaagcaga tctgtgtgtt caacctgcc gacctgggcc 480

agaacccgtc cgcccgctcc cagaaggctg tcgaggccgt ctgcacgtg tccgcctacc 540

acaacaagct gctcctcaac ctgcccggc agtcgcccc gacgggcatg gtcaagctgt 600

tcgagatcga caagcagttc ggggagatgc tgcgcgacct ccagaacttc ggctgagcg 660

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actgcgaggg caagatgttc tgggaccagg tccacccac caccgtggtc cagccgccc	900
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gaggatcc	968

<210> 49

<211> 1044

<212> ADN

<213> Aeromonas salmonicida

<400> 49

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caagaaagac tggcaatcgc cggaaatccg cttttggcac aagcagttgc ttcaccgatg	900
gcaagaagat cagcaagccc gctgaattgc gaaggcaaaa tgttttggga tcaggcccat	960
ccgacaacag ttgtccatgc tgccctttca gaaagagcgg cgacgtttat cgaaacacag	1020
tatgaatttc tggcccatgg ctga	1044

<210> 50

<211> 1005

<212> ADN

<213> *Aeromonas hydrophila*

<400> 50

atgaaaaaat ggtttgtgtg tttattggga ttggtcgcgc tgacagttca ggcagccgac	60
agcgttcccg ctttctcccg gatcgtgatg tttggcgaca gcctctccga taccggcaag	120
atgtacagca agatgcgcgg ttacctcccc tccagccccc cctactatga gggccgcttc	180

tccaacgggc cegtctggct ggagcagctg accaacgagt tcccgggcct gaccatagcc	240
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aagccggacg atctggatgat cctctgggtc ggcgccaacg actatctggc ctatggctgg	420
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gacagccagc tctccgcctt caaccgcag gagcgctcg ccacgcccgg caaccgctg	840
ctggcccagg ccgtcgccag ccccatggct gccgcagcg ccagcacctt caactgtgag	900
ggcaagatgt tctgggatca ggtccacccc accactgtcg tgcacgccgc cctgagcgag	960
ccgcccgcga ccttcacga gagccagtac gagttcctcg ccac	1005

<210> 51

<211> 1011

<212> ADN

<213> Aeromonas salmonicida

<400> 51

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atgtacagca agatgcgcgg ttacctcccc tccagcccg cctactatga gggccgtttc	180
tccaacggac cgtctggct ggagcagctg accaagcagt tccgggtct gaccatcgcc	240
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tatcaggtct acaacaacct ggactacgag gtcaccagt tcttgcaaa agacagcttc	360
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gtactgaacg gtgccaagca gatactgctg ttcaacctgc cggatctggg ccagaacccg	540
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aaccctgct acgacggcgg ctatgtgtgg aagccgtttg ccaccgcag cgtcagcacc	780
gaccgccagc tctccgcctt cagtccgcag gaacgcctcg ccatcgccgg caaccgctg	840
ctggcacagg ccgttgccag tcctatggcc cgccgcagcg ccagccccct caactgtgag	900

ggcaagatgt tctgggatca ggtacacccg accactgtcg tgcacgcagc cctgagcgcg 960

cgcgccgcc ccttcacga gaccagtac gagttcctcg cccacggatg a 1011

<210> 52

<211> 888

<212> ADN

<213> Streptomyces coelicolor

<400> 52

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gccctcggcc tcaccgacgc caccgcccac gccgcgcccg cccaggccac tccgaccctg 120

gactacgtcg ccctcggcga cagctacagc gccggctccg gcgtcctgcc cgtcgacccc 180

gccaacctgc tctgtctgcg ctcgacggcc aactacccc acgtcatcgc ggacacgacg 240

ggcgcccgcc tcacggacgt cacctgcggc gccgcgcaga ccgccgactt cacgcgggcc 300

cagtaccg cgctcgaccc ccagttggac gcgtcggca ccggcacgga cctggtcacg 360

ctcaccatcg gcggcaacga caacagcacc ttcatcaacg ccatcacggc ctgcggcacg 420

gcgggtgtcc tcagcggcgg caagggcagc ccctgcaagg acaggcacgg cacctccttc 480

gacgacgaga tcgaggccaa cacgtacccc gcgtcaagg aggcgtgct cggcgtccgc 540

gccagggctc cccacgccag ggtggcggtc ctcggctacc cgtggatcac cccggccacc 600

gccgaccgct cctgcttcct gaagctcccc ctcgcgcgcg gtgacgtgcc ctacctcgg 660

gccatccagg cacacctcaa cgacgcggtc cggcggggccg ccgaggagac cggagccacc	720
tacgtggact tctccggggt gtccgacggc cacgacgcct gcgaggcccc cggcaccgcg	780
tggatcgaac cgctgctctt cgggcacagc ctcggtcccg tccaccccaa cgcctgggc	840
gagcggcgca tggccgagca cacgatggac gtcctcggcc tggactga	888

<210> 53

<211> 888

<212> ADN

<213> Streptomyces coelicolor

<400> 53

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ggcctcgag gcgtcggtgc cgtcgacac ccgggagaag tccacgtagg tggctccgt	180
ctcctcggcg gcccgccga ccgctcggt gaggtgtgc tggatggccc gcaggtaggg	240
cacgtcaccg gcggcgagg ggagcttcag gaagcaggac gggcggcgg tggccgggt	300
gatccacgg tagccgagag ccgccaccct ggcgtggga gccctggcg ggacgccag	360
cagcgctcc ttgagcgcg ggtacgtgt ggcctcgatc tcgtcgctga aggaggtgc	420
gtgctgtcc ttgcagggc tgcccttgc gccgtgagg acaccgccg tgccgcaggc	480
cgtgatggcg ttgatgaagg tgctgtgtc gttgccgcc atggtgagcg tgaccaggtc	540

cgtgccggtg ccgagcgcgt ccaactgggg tgcgacgcc gggtagtggg cccgcgtgaa	600
gtcggcggtc tgcgcggcgc cgcaggtgac gtccgtgagg cgggcgcccg tcgtgtccgc	660
gatgacgtgg gggtagttgg ccgtcgagcg cagacagagc aggttggcgg ggtcgacggg	720
caggacgccg gagccggcgc tgtagctgtc gccgagggcg acgtagtcca gggtcggagt	780
ggcctgggcg ggcgcggcgt gggcgggtggc gtcggtgagg ccgagggcga gcgtgccgac	840
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<210> 54

<211> 717

<212> ADN

<213> *Saccharomyces cerevisiae*

<400> 54

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acgagaaaaa tggatattct tcaaagaggg ttcaaagggt acacttctag atgggcgttg	180
aaaatacttc ctgagatttt aaagcatgaa tccaatattg tcatggccac aatatttttg	240
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aatattcgtc aaatgggtatc ttgatgaag tcttaccata tccgtcctat tataatagga	360
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tacttccgta ccaacgagaa ctttgccatt tattccgatg ccttagcaaa actagccaat	480
gaggaaaaag ttcccttcgt ggctttgaat aaggcgtttc aacaggaagg tggatgatgt	540
tggcaacaac tgctaacaga tggactgcac ttttccggaa aagggtacaa aatttttcat	600
gacgaattat tgaaggatcat tgagacattc taccaccaat atcatcccaa aaacatgcag	660
tacaaactga aagattggag agatgtgcta gatgatggat ctaacataat gtcttga	717

<210> 55

<211> 1044

<212> ADN

<213> *Ralstonia* sp.

<400> 55

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gtggtgttcg gcgacagcct gagcgatata ggacactaca ccccgctcgc gcaggcgggtg	180
ggcggcggca agttcaccac caaccgggc ccgatctggg ccgagaccgt ggccgcgcaa	240
ctgggctgta cgctcacgcc ggcggtgatg ggctacgcca cctccgtgca gaattgcccc	300
aaggccggct gcttcgacta tgcgcagggc ggctcgcgcg tgaccgatcc gaacggcatc	360
ggccacaacg gcggcgcggg ggcgctgacc taccgggttc agcagcagct cgccaacttc	420
tacggggcca gcaacaacac attcaacggc aataacgatg tcgtcttcgt gctggccggc	480

agcaacgaca ttttcttctg gaccactgcg gcggccacca gcggctccgg cgtgacgcc	540
gccattgcc a cggcccaggt gcagcaggcc gcgacggacc tggtcggcta tgtcaaggac	600
atgatcgcca aggggtgcgac gcaggtctac gtgttcaacc tgcccgcag cagcctgacg	660
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ttcaacacga cgctgcaaag cgggctggcc ggcacctcgg cgcgcatcat cgacttcaac	780
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<210> 56

<211> 786

<212> ADN

<213> *Streptomyces coelicolor*

<400> 56

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cccgagggcg acttcacgta cacgaacctc gccgtgcgcg gcaggctcct cgaccagatc	180

gtggcggaac aggtcccgcg ggtcgtcgga ctcgcgcccg acctcgtctc gttcgcggcg	240
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ctggcggttg ccgcgtgac cgccgcggcc ggaaccgtcc tggtgaccac cgggttcgac	360
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gtccgcgcca tcgccgaccg ctacggctgc ccggtgctcg acctgtggtc gctgcggagc	480
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ccctggccgc ccctgccgc gcgcggcacg ctcgacgtcc ggcgcgacga cgtgcactgg	660
gcgcgcgagt acctggtgcc gtggatcggg cgccggctgc ggggcgagtc gtcgggcgac	720
cacgtgacgg ccaaggggac gctgtcgccg gacgccatca agacgcggat cgccgcggtg	780
gcctga	786

<210> 57

<211> 783

<212> ADN

<213> Streptomyces coelicolor

<400> 57

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atgtcggacc tgctgccga cggctcctac cgtggctggg ccgacctcct cgccaccggg	120
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atggcgggccc gctcccccg cttccggtac gccaacctgg cggcgcgcg gaagctgac	180
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gtccggttcg ccggcagca cctgctgcc ttgataggcc gcaggctgac cgggcgctcg	720
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<210> 58

<211> 1365

<212> ADN

<213> Streptomyces coelicolor

<400> 58

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gtcgtcgact tcgacaaggc cctgcgcgac ccgtacgacc cgcgccgat gcgctccgac	1260
tacgacagcg gcgaccacct gcaccccgcc gacaaggggt acgcgcgcat gggcgcggtc	1320
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<210> 59

<211> 1023

<212> ADN

<213> Streptomyces coelicolor

<400> 59

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ggcggcggca tcggcctggc gggagcggcg gcggtcggtc tgggtgtggc cgaggtgcag	120
ctggccagac gcaggggtggg ggtgggcacg ccgacccggg tgccgaacgc gcagggactg	180
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<210> 60

<211> 918

<212> ADN

<213> Streptomyces coelicolor

<400> 60

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gactcaccgc ctcttccg cagcccgtcg aagcggacga ggacggcgcc cgcctgggac	180

accagcccgg cgtccgtcgc cgccgtgggc gactccatca cgcgcggtt cgacgcctgt	240
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agcgacgacg gcgcggtgca cgagttccgg ttcggcacgg accagttgag cactgggac	840
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<210> 61

<211> 1068

<212> ADN

<213> Streptomyces rimosus

<400> 61

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gacaagcctt cccgtgacga aagggtcctg ctacatcaga aatgacagaa atcctgctca	120
gggaggttcc atgagactgt cccgacgcgc ggccacggcg tccgcgctcc tctcaccoc	180
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cgaagtcccg cccccgggcg gggcttcgcc gtaggtgcgc gtaccgccgt cgcccgtcgc 1020

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<210> 62

<211> 1008

<212> ADN

<213> Aeromonas hydrophila

<400> 62

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atgtacagca agatgcgcgg ttacctcccc tccagccgc cctactatga gggccgtttc 180

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tatcaggtca tcaacaacct ggactacgag gtcaccagc tcttgagaa agacagcttc 360

aagccggacg atctggtgat cctctgggtc ggtgccaatg actatctggc ctatggctgg 420

aacacggagc aggatgccaa gcgggttcgc gatgccatca gcgatgcggc caaccgcatg 480

gtactgaacg gtgccaagca gatactgctg ttcaacctgc cggatctggg ccagaacccg 540

tcagctcgca gtcagaaggt ggtcgaggcg gtcagccatg tctccgccta tcacaaccag 600

ctgctgctga acctggcacg ccagctggcc cccaccggca tggtaaagct gttcgagatc 660

gacaagcaat ttgccgagat gctgcgtgat ccgcagaact tcggcctgag cgacgtcgag	720
aacccttgct acgacggcgg ctatgtgtgg aagccgtttg ccaccgcag cgtcagcacc	780
gaccgccagc tctccgcctt cagtccgcag gaacgcctcg ccatcgccgg caaccgctg	840
ctggcacagg ccgttgccag tcctatggcc cgccgcagcg ccagccccct caactgtgag	900
ggcaagatgt tctgggatca ggtacaccgg accactgtcg tgcacgcagc cctgagcgag	960
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<210> 63

<211> 1011

<212> ADN

<213> *Aeromonas salmonicida* subsp. *Salmonicida*

<400> 63

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atgtacagca agatgcgcgg ttacctcccc tccagcccg cctactatga gggccgtttc	180
tccaacggac ccgtctggct ggagcagctg accaagcagt tccgggtct gaccatcgcc	240
aacgaagcgg aaggcgggtg cactgccgtg gcttacaaca agatctcctg gaatcccaag	300
tatcaggtca tcaacaacct ggactacgag gtcaccagcgt tcttgacaga agacagcttc	360
aagccggacg atctggtgat cctctgggtc ggtgccaatg actatctggc atatggctgg	420

aatacgggagc aggatgccaa gcgagttcgc gatgccatca gcgatgcggc caaccgcatg	480
gtactgaacg gtgccaagca gatactgctg ttcaacctgc cggatctggg ccagaacccg	540
tcagcccgca gtcagaaggt ggtcgaggcg gtcagccatg tctccgccta tcacaacaag	600
ctgctgctga acctggcacg ccagctggcc cccaccggca tggtaaagct gttcgagatc	660
gacaagcaat ttgccgagat gctgcgtgat ccgcagaact tcggcctgag cgacgtcgag	720
aacccttgct acgacggcgg ctatgtgtgg aagccgtttg ccaccgcag cgtcagcacc	780
gaccgccagc tctccgcctt cagtcgcgag gaacgcctcg ccatcgccgg caaccgctg	840
ctggcacagg ccgttgccag tcctatggcc cgccgcagcg ccagccccct caactgtgag	900
ggcaagatgt tctgggatca ggtacacccg accactgtcg tgcacgcagc cctgagcgag	960
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<210> 64

<211> 51

<212> ADN

<213> Secuencia artificial

<220>

<223> Secuencia terminadora de alfa-amilasa

<400> 64

cgggacttac cgaaagaaac catcaatgat ggtttctttt ttgttcataa a	51
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<210> 65

<211> 59

<212> ADN

<213> Secuencia artificial

<220>

<223> Secuencia terminadora de alcalino proteasa

<400> 65

caagactaaa gaccgttcgc ccgtttttgc aataagcggg cgaatcttac ataaaaata 59

<210> 66

<211> 61

<212> ADN

<213> Secuencia artificial

<220>

<223> Secuencia terminadora específica de ácido glutámico

<400> 66

acggccgtta gatgtgacag ccggttcaa aaggaagcgg gctgtcttcg tgtattattg 60

t 61

<210> 67

<211> 54

<212> ADN

<213> Secuencia artificial

<220>

<223> Secuencia terminadora de levanasa

<400> 67

tcttttaaag gaaaggctgg aatgcccggc attccagcca catgatcatc gttt

54

<210> 68

<211> 280

<212> PRT

<213> *Aeromonas salmonicida*

<400> 68

Ala Asp Thr Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly Asp Ser

1

5

10

15

Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro

20

25

30

Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp

35

40

45

Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala Asn Glu

50

55

60

Ala Glu Gly Gly Ala Thr Ala Val Ala Tyr Asn Lys Ile Ser Trp Asp

65

70

75

80

Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe

	85		90		95										
Leu	Gln	Lys	Asp	Ser	Phe	Lys	Pro	Asp	Asp	Leu	Val	Ile	Leu	Trp	Val
		100						105					110		
Gly	Ala	Asn	Asp	Tyr	Leu	Ala	Tyr	Gly	Trp	Asn	Thr	Glu	Gln	Asp	Ala
		115						120					125		
Lys	Arg	Val	Arg	Asp	Ala	Ile	Ser	Asp	Ala	Ala	Asn	Arg	Met	Val	Leu
		130						135					140		
Asn	Gly	Ala	Lys	Gln	Ile	Leu	Leu	Phe	Asn	Leu	Pro	Asp	Leu	Gly	Gln
145					150					155					160
Asn	Pro	Ser	Ala	Arg	Ser	Gln	Lys	Val	Val	Glu	Ala	Val	Ser	His	Val
				165						170					175
Ser	Ala	Tyr	His	Asn	Lys	Leu	Leu	Leu	Asn	Leu	Ala	Arg	Gln	Leu	Ala
				180					185						190
Pro	Thr	Gly	Met	Val	Lys	Leu	Phe	Glu	Ile	Asp	Lys	Gln	Phe	Ala	Glu
		195						200							205
Met	Leu	Arg	Asp	Pro	Gln	Asn	Phe	Gly	Leu	Ser	Asp	Val	Glu	Asn	Pro
		210						215							220

Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Arg Ser Ala Ser Pro
225 230 235 240

Leu Asn Cys Glu Gly Lys Met Phe Trp Asp Gln Val His Pro Thr Thr
245 250 255

Val Val His Ala Ala Leu Ser Glu Arg Ala Ala Thr Phe Ile Glu Thr
260 265 270

Gln Tyr Glu Phe Leu Ala His Gly
275 280

<210> 69

<211> 4

<212> PRT

<213> Secuencia artificial

<220>

<223> Motivo de secuencia de aminoácidos

<220>

<221> MISC_CARACTERÍSTICA

<222> (4)..(4)

<223> Xaa may be Leu, Ala, Val, Ile, Phe, Tyr, His, Gln, Thr, Asn, Met,
or Ser.

<400> 69

Gly Asp Ser Xaa

1

<210> 70

<211> 5

<212> PRT

<213> Secuencia artificial

<220>

<223> Motivo péptido

<400> 70

Gly Gly Asn Asp Ala

1 5

<210> 71

<211> 5

<212> PRT

<213> Secuencia artificial

<220>

<223> Motivo péptido

<400> 71

Gly Gly Asn Asp Leu

1 5

<210> 72

<211> 5

<212> PRT

<213> Secuencia artificial

<220>

<223> Motivo péptido

<220>

<221> misc_característica

<222> (5)..(5)

<223> Xaa puede ser cualquier aminoácido de origen natural

<400> 72

Gly Gly Asn Asp Xaa

1 5

<210> 73

<211> 8

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 73

Met Arg Arg Ser Arg Phe Leu Ala

1 5

<210> 74

<211> 8

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 74

Ala Leu Ile Leu Leu Thr Leu Ala

1 5

<210> 75

<211> 5

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 75

Ala Arg Ala Ala Pro

1 5

<210> 76

<211> 11

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 76

Tyr Val Ala Leu Gly Asp Ser Tyr Ser Ser Gly

1 5 10

<210> 77

<211> 5

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 77

Gly Ala Gly Ser Tyr

1 5

<210> 78

<211> 4

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 78

Ser Ser Gly Asp

1

<210> 79

<211> 15

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 79

Arg Ser Thr Lys Ala Tyr Pro Ala Leu Trp Ala Ala Ala His Ala

1

5

10

15

<210> 80

<211> 5

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 80

Ser Ser Phe Ser Phe

1

5

<210> 81

<211> 12

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 81

Ala Cys Ser Gly Ala Arg Thr Tyr Asp Val Leu Ala

1 5 10

<210> 82

<211> 15

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 82

Leu Val Ser Ile Thr Ile Gly Gly Asn Asp Ala Gly Phe Ala Asp

1 5 10 15

<210> 83

<211> 6

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 83

Met Thr Thr Cys Val Leu

1 5

<210> 84

<211> 6

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 84

Ser Asp Ser Ala Cys Leu

1 5

<210> 85

<211> 4

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 85

Thr Leu Pro Ala

1

<210> 86

<211> 9

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 86

Arg Leu Asp Ser Val Tyr Ser Ala Ile

1

5

<210> 87

<211> 4

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 87

Thr Arg Ala Pro

1

<210> 88

<211> 12

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 88

Ala Arg Val Val Val Leu Gly Tyr Pro Arg Ile Tyr

1

5

10

<210> 89

<211> 4

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 89

Leu Gly Leu Ser

1

<210> 90

<211> 11

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 90

Thr Lys Arg Ala Ala Ile Asn Asp Ala Ala Asp

1 5 10

<210> 91

<211> 12

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 91

Leu Asn Ser Val Ile Ala Lys Arg Ala Ala Asp His

1 5 10

<210> 92

<211> 7

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 92

Gly Phe Thr Phe Gly Asp Val

1 5

<210> 93

<211> 7

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 93

Gly His Glu Leu Cys Ser Ala

1 5

<210> 94

<211> 9

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 94

Pro Trp Leu His Ser Leu Thr Leu Pro

1 5

<210> 95

<211> 6

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 95

Ser Tyr His Pro Thr Ala

1 5

<210> 96

<211> 13

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia consenso

<400> 96

Gly His Ala Ala Gly Tyr Leu Pro Val Leu Asn Ser Ile

1 5 10

<210> 97

<211> 1225

<212> ADN

<213> Secuencia artificial

<220>

<223> Secuencia del inserto de XhoI que contiene el gen precursor LAT-KLM3'

<400> 97

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tacaatatca tatgtttcac attgaaaggg gaggagaatc atgaaacaac aaaaacggct	120
ttacgcccga ttgctgacgc tgttatttgc gctcatcttc ttgctgcctc attctgcagc	180
ttcagcagca gatacaagac cggcgtttag ccggatcgtc atgtttggag atagcctgag	240
cgatacgggc aaaatgtata gcaaaatgag aggctatctt ccgtcaagcc cgccgtatta	300
tgaaggccgc tttagcaatg gaccggtctg gctggaacaa ctgacgaaac aatttcggg	360
actgacgatc gctaataag cagaaggagg agcaacagcg gtcgcctata acaaaatcag	420
ctgggaccgc aaatatcagg tcatcaacaa cctggactat gaagtcacac agtttcttca	480
gaaagacagc tttaaaccgg atgatctggt catcctttgg gtcggcgcca atgattatct	540
ggcgtatggc tggaacacag aacaagatgc caaaagagtc agagatgcca tcagcgatgc	600
cgctaataga atggtcctga acggcgccaa acaaaccctg ctgtttaacc tgccggatct	660
gggacaaaat ccgagcgcca gaagccaaaa agtcgtcgaa gcagtcagcc atgtcagcgc	720
ctatcataac aaactgctgc tgaacctggc aagacaattg gcaccgacgg gaatggtaa	780
attgtttgaa attgacaaac agtttgccga aatgctgaga gatccgcaaa attttggcct	840
gagcgatgtc gaaaaccgt gctatgatgg cggatatgtc tggaaaccgt ttgccacaag	900

aagcgtcagc acg gatagac aactgtcagc gtttagcccg caagaaagac tggcaatcgc 960

cggaatccg cttttggcac aagcagttgc ttcaccgatg gcaagaagat cagcaagccc 1020

gctgaattgc gaaggcaaaa tgttttgga tcaggtccat cgcacaacag ttgtccatgc 1080

tgccctttca gaaagagcgg cgacgtttat cgaaacacag tatgaatttc tggcccatgg 1140

ctgagttaac agaggacgga tttcctgaag gaaatccgtt tttttatattt aagcttggag 1200

acaaggtaaa ggataaaacc tcgag 1225

<210> 98

<211> 347

<212> PRT

<213> Secuencia artificial

<220>

<223> Secuencia del inserto de XhoI que contiene el gen precursor LAT-KLM3'

<400> 98

Met Lys Gln Gln Lys Arg Leu Tyr Ala Arg Leu Leu Thr Leu Leu Phe

1 5 10 15

Ala Leu Ile Phe Leu Leu Pro His Ser Ala Ala Ser Ala Ala Asp Thr

20 25 30

Arg Pro Ala Phe Ser Arg Ile Val Met Phe Gly Asp Ser Leu Ser Asp

35 40 45

Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro Ser Ser Pro
50 55 60

Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp Leu Glu Gln
65 70 75 80

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

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

Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe Leu Gln Lys
115 120 125

Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu Trp Val Gly Ala Asn
130 135 140

Asp Tyr Leu Ala Tyr Gly Trp Asn Thr Glu Gln Asp Ala Lys Arg Val
145 150 155 160

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

Lys Gln Ile Leu Leu Phe Asn Leu Pro Asp Leu Gly Gln Asn Pro Ser

180 185 190

Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser His Val Ser Ala Tyr

195 200 205

His Asn Lys Leu Leu Leu Asn Leu Ala Arg Gln Leu Ala Pro Thr Gly

210 215 220

Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe Ala Glu Met Leu Arg

225 230 235 240

Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu Asn Pro Cys Tyr Asp

245 250 255

Gly Gly Tyr Val Trp Lys Pro Phe Ala Thr Arg Ser Val Ser Thr Asp

260 265 270

Arg Gln Leu Ser Ala Phe Ser Pro Gln Glu Arg Leu Ala Ile Ala Gly

275 280 285

Asn Pro Leu Leu Ala Gln Ala Val Ala Ser Pro Met Ala Arg Arg Ser

290 295 300

Ala Ser Pro Leu Asn Cys Glu Gly Lys Met Phe Trp Asp Gln Val His
305 310 315 320

Pro Thr Thr Val Val His Ala Ala Leu Ser Glu Arg Ala Ala Thr Phe
325 330 335

Ile Glu Thr Gln Tyr Glu Phe Leu Ala His Gly
340 345

<210> 99

<400> 99
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<210> 100

<400> 100
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<210> 101

<400> 101
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<210> 102

<400> 102
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<210> 103

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<210> 105

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<210> 112

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<210> 116

<400> 116

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<210> 117

<400> 117

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<210> 118

<400> 118

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<210> 119

<211> 56

<212> ADN

<213> Secuencia artificial

<220>

<223> Secuencia terminadora de subtilisina E

<400> 119

gctgacaaat aaaaagaagc aggtatggag gaacctgctt ctttttacta ttattg

56

<210> 120

<211> 954

<212> ADN

<213> Aeromonas salmonicida

<400> 120

gacactcgcc ccgccttctc ccggatcgtg atgttcggcg acagcctctc cgataccggc

60

aaaatgtaca gcaagatgcg cggttacctc ccctccagcc cgcctacta tgagggccgt	120
ttctccaacg gacccgtctg gctggagcag ctgaccaagc agttcccggg tctgaccatc	180
gccaacgaag cggaaggcgg tgccactgcc gtggcttaca acaagatctc ctgggacccc	240
aagtatcagg tcatcaacaa cctggactac gaggtcacc c agttcttgca gaaagacagc	300
ttcaagccgg acgatctggt gatcctctgg gtccggtgcca atgactatct ggcatatggc	360
tggaatacgg agcaggatgc caagcgagtt cgcgatgcca tcagcgatgc ggccaaccgc	420
atggtactga acggtgccaa gcagatactg ctgttcaacc tgccggatct gggccagaac	480
ccgtcagccc gcagtcagaa ggtggtcgag gcggtcagcc atgtctccgc ctatcacaac	540
aagctgctgc tgaacctggc acgccagctg gccccaccg gcatggtaaa gctgttcgag	600
atcgacaagc aatttgccga gatgctgctg gatccgcaga acttcggcct gagcgacgtc	660
gagaaccctt gctacgacgg cggctatgtg tggaagccgt ttgccaccgc cagcgtcagc	720
accgaccgcc agctctccgc cttcagtcgc caggaacgcc tcgccatcgc cggcaaccgc	780
ctgctggcac aggcgcttgc cagtctatg gcccgccgca gcgccagccc cctcaactgt	840
gagggcaaga tgttctggga tcaggtacac ccgaccactg tcgtgcacgc agccctgagc	900
gagcgcgccg ccaccttcat cgagaccag tacgagttcc tcgccacgg atga	954

<210> 121

<211> 279

<212> PRT

<213> Aeromonas salmonicida

<400> 121

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

Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro
20 25 30

Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp
35 40 45

Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala Asn Glu
50 55 60

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

Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe
85 90 95

Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu Trp Val
100 105 110

Gly Ala Asn Asp Tyr Leu Ala Tyr Gly Trp Asn Thr Glu Gln Asp Ala
115 120 125

Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met Val Leu
130 135 140

Asn Gly Ala Lys Gln Ile Leu Leu Phe Asn Leu Pro Asp Leu Gly Gln
145 150 155 160

Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser His Val
165 170 175

Ser Ala Tyr His Asn Lys Leu Leu Leu Asn Leu Ala Arg Gln Leu Ala
180 185 190

Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe Ala Glu
195 200 205

Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu Asn Pro
210 215 220

Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ser Ala Ser Pro Leu
225 230 235 240

Asn Cys Glu Gly Lys Met Phe Trp Asp Gln Val His Pro Thr Thr Val

245 250 255
Val His Ala Ala Leu Ser Glu Arg Ala Ala Thr Phe Ile Glu Thr Gln
260 265 270

Tyr Glu Phe Leu Ala His Gly
275

<210> 122
<211> 278
<212> PRT
<213> *Aeromonas salmonicida*

<400> 122

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

Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro
20 25 30

Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp
35 40 45

Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala Asn Glu
50 55 60

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

Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe
85 90 95

Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu Trp Val
100 105 110

Gly Ala Asn Asp Tyr Leu Ala Tyr Gly Trp Asn Thr Glu Gln Asp Ala
115 120 125

Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met Val Leu
130 135 140

Asn Gly Ala Lys Gln Ile Leu Leu Phe Asn Leu Pro Asp Leu Gly Gln
145 150 155 160

Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser His Val
165 170 175

Ser Ala Tyr His Asn Lys Leu Leu Leu Asn Leu Ala Arg Gln Leu Ala
180 185 190

Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe Ala Glu
195 200 205

Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu Asn Pro
210 215 220

Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ala Ser Pro Leu Asn
225 230 235 240

Cys Glu Gly Lys Met Phe Trp Asp Gln Val His Pro Thr Thr Val Val
245 250 255

His Ala Ala Leu Ser Glu Arg Ala Ala Thr Phe Ile Glu Thr Gln Tyr
260 265 270

Glu Phe Leu Ala His Gly
275

<210> 123

<211> 277

<212> PRT

<213> *Aeromonas salmonicida*

<400> 123

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

Leu Ser Asp Thr Gly Lys Met Tyr Ser Lys Met Arg Gly Tyr Leu Pro
20 25 30

Ser Ser Pro Pro Tyr Tyr Glu Gly Arg Phe Ser Asn Gly Pro Val Trp
35 40 45

Leu Glu Gln Leu Thr Lys Gln Phe Pro Gly Leu Thr Ile Ala Asn Glu
50 55 60

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

Pro Lys Tyr Gln Val Ile Asn Asn Leu Asp Tyr Glu Val Thr Gln Phe
85 90 95

Leu Gln Lys Asp Ser Phe Lys Pro Asp Asp Leu Val Ile Leu Trp Val
100 105 110

Gly Ala Asn Asp Tyr Leu Ala Tyr Gly Trp Asn Thr Glu Gln Asp Ala
115 120 125

Lys Arg Val Arg Asp Ala Ile Ser Asp Ala Ala Asn Arg Met Val Leu
130 135 140

Asn Gly Ala Lys Gln Ile Leu Leu Phe Asn Leu Pro Asp Leu Gly Gln
145 150 155 160

Asn Pro Ser Ala Arg Ser Gln Lys Val Val Glu Ala Val Ser His Val
165 170 175

Ser Ala Tyr His Asn Lys Leu Leu Leu Asn Leu Ala Arg Gln Leu Ala
180 185 190

Pro Thr Gly Met Val Lys Leu Phe Glu Ile Asp Lys Gln Phe Ala Glu
195 200 205

Met Leu Arg Asp Pro Gln Asn Phe Gly Leu Ser Asp Val Glu Asn Pro
210 215 220

Cys Tyr Asp Gly Gly Tyr Val Trp Lys Pro Phe Ser Pro Leu Asn Cys
225 230 235 240

Glu Gly Lys Met Phe Trp Asp Gln Val His Pro Thr Thr Val Val His
245 250 255

Ala Ala Leu Ser Glu Arg Ala Ala Thr Phe Ile Glu Thr Gln Tyr Glu
260 265 270

Phe Leu Ala His Gly

275

<210> 124

<211> 122

<212> PRT

<213> Streptomyces violaceoruber

<400> 124

Ala Pro Ala Asp Lys Pro Gln Val Leu Ala Ser Phe Thr Gln Thr Ser

1 5 10 15

Ala Ser Ser Gln Asn Ala Trp Leu Ala Ala Asn Arg Asn Gln Ser Ala

20 25 30

Trp Ala Ala Tyr Glu Phe Asp Trp Ser Thr Asp Leu Cys Thr Gln Ala

35 40 45

Pro Asp Asn Pro Phe Gly Phe Pro Phe Asn Thr Ala Cys Ala Arg His

50 55 60

Asp Phe Gly Tyr Arg Asn Tyr Lys Ala Ala Gly Ser Phe Asp Ala Asn

65 70 75 80

Lys Ser Arg Ile Asp Ser Ala Phe Tyr Glu Asp Met Lys Arg Val Cys

85 90 95

Thr Gly Tyr Thr Gly Glu Lys Asn Thr Ala Cys Asn Ser Thr Ala Trp
100 105 110

Thr Tyr Tyr Gln Ala Val Lys Ile Phe Gly
115 120