

PCT68898\_SeqList\_App1No notyetassigned.txt  
SEQUENCE LISTING

<110> Hyglos Invest GmbH  
<120> Methods of generating and screening for lytic chimeric polypeptides  
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<150> 10 006 360.1  
<151> 2010-06-18  
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<213> Bacteriophage A511

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Ser Lys Ser Thr Ile Asp Asn Glu Val Ser Tyr Met Thr Arg Asn Trp  
35 40 45

Lys Asn Ala Phe Val Thr His Phe Val Gly Gly Gly Gly Arg Val Val  
50 55 60

Gln Val Ala Asn Val Asn Tyr Val Ser Trp Gly Ala Gly Gln Tyr Ala  
65 70 75 80

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

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

Leu Ala Lys Lys Ala Gly Ile Pro Ile Thr Leu Asp Ser Gly Ser Lys  
115 120 125

Thr Ser Asp Lys Gly Ile Lys Ser His Lys Trp Val Ala Asp Lys Leu  
130 135 140

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

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

PCT68898\_SeqList\_App1No notyetassigned.txt

Gly Asn Thr Gly Thr Ala Pro Ala Lys Pro Ser Thr Pro Ala Pro Lys  
180 185 190

Pro Ser Thr Pro Ser Thr Asn Leu Asp Lys Leu Gly Leu Val Asp Tyr  
195 200 205

Met Asn Ala Lys Lys Met Asp Ser Ser Tyr Ser Asn Arg Asp Lys Leu  
210 215 220

Ala Lys Gln Tyr Gly Ile Ala Asn Tyr Ser Gly Thr Ala Ser Gln Asn  
225 230 235 240

Thr Thr Leu Leu Ser Lys Ile Lys Gly Gly Ala Pro Lys Pro Ser Thr  
245 250 255

Pro Ala Pro Lys Pro Ser Thr Ser Thr Ala Lys Lys Ile Tyr Phe Pro  
260 265 270

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

Lys Ala Asn Ala Ile Gly Ala Ile Asn Pro Thr Lys Phe Gly Gly Leu  
290 295 300

Thr Tyr Thr Ile Gln Lys Asp Arg Gly Asn Gly Val Tyr Glu Ile Gln  
305 310 315 320

Thr Asp Gln Phe Gly Arg Val Gln Val Tyr Gly Ala Pro Ser Thr Gly  
325 330 335

Ala Val Ile Lys Lys  
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<210> 2  
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<212> PRT  
<213> Bacteriophage A500

<400> 2

Met Ala Leu Thr Glu Ala Trp Leu Ile Glu Lys Ala Asn Arg Lys Leu  
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Asn Ala Gly Gly Met Tyr Lys Ile Thr Ser Asp Lys Thr Arg Asn Val  
20 25 30

Ile Lys Lys Met Ala Lys Glu Gly Ile Tyr Leu Cys Val Ala Gln Gly  
35 40 45

Tyr Arg Ser Thr Ala Glu Gln Asn Ala Leu Tyr Ala Gln Gly Arg Thr  
50 55 60

PCT68898\_SeqList\_App1No notyetassigned.txt

Lys Pro Gly Ala Ile Val Thr Asn Ala Lys Gly Gly Gln Ser Asn His  
65 70 75 80

Asn Tyr Gly Val Ala Val Asp Leu Cys Leu Tyr Thr Asn Asp Gly Lys  
85 90 95

Asp Val Ile Trp Glu Ser Thr Thr Ser Arg Trp Lys Lys Val Val Ala  
100 105 110

Ala Met Lys Ala Glu Gly Phe Lys Trp Gly Gly Asp Trp Lys Ser Phe  
115 120 125

Lys Asp Tyr Pro His Phe Glu Leu Cys Asp Ala Val Ser Gly Glu Lys  
130 135 140

Ile Pro Ala Ala Thr Gln Asn Thr Asn Thr Asn Ser Asn Arg Tyr Glu  
145 150 155 160

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

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

Asp His Asn Gln Tyr Trp Tyr Lys Thr Tyr Ile Asp Asp Lys Leu Tyr  
195 200 205

Tyr Met Tyr Lys Ser Phe Cys Asp Val Val Ala Lys Lys Asp Ala Lys  
210 215 220

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

Val Trp Asn Asn Ile Lys Leu Asn Ser Gly Lys Ile Lys Trp Tyr Ala  
245 250 255

Pro Asn Val Lys Leu Ala Trp Tyr Asn Tyr Arg Arg Gly Tyr Leu Glu  
260 265 270

Leu Trp Tyr Pro Asn Asp Gly Trp Tyr Tyr Thr Ala Glu Tyr Phe Leu  
275 280 285

Lys

<210> 3  
<211> 344  
<212> PRT  
<213> Bacteriophage P40

<400> 3

Met Val Leu Val Leu Asp Ile Ser Lys Trp Gln Pro Thr Val Asn Tyr  
Seite 3

PCT68898\_SeqList\_App1No notyetassigned.txt

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Ser Gly Leu Lys<sub>20</sub> Glu Asp Val Gly Phe<sub>25</sub> Val Val Ile Arg Ser Ser Asn

Gly Thr Gln<sub>35</sub> Lys Tyr Asp Glu Arg<sub>40</sub> Leu Glu Gln His Ala<sub>45</sub> Lys Gly Leu

Asp Lys<sub>50</sub> Val Gly Met Pro Phe<sub>55</sub> Gly Leu Tyr His Tyr<sub>60</sub> Ala Leu Phe Glu

Gly Gly Gln Asp Thr Ile<sub>70</sub> Asn Glu Ala Asn Met<sub>75</sub> Leu Val Ser Ala Tyr<sub>80</sub>

Lys Lys Cys Arg Gln<sub>85</sub> Leu Gly Ala Glu Pro<sub>90</sub> Thr Phe Leu Phe Leu Asp<sub>95</sub>

Tyr Glu Glu Val<sub>100</sub> Lys Leu Lys Ser Gly<sub>105</sub> Asn Val Val Asn Glu<sub>110</sub> Cys Gln

Arg Phe Ile<sub>115</sub> Asp His Val Lys Gly<sub>120</sub> Gln Thr Gly Val Lys<sub>125</sub> Val Gly Leu

Tyr Ala<sub>130</sub> Gly Asp Ser Phe Trp<sub>135</sub> Lys Thr His Asp Leu<sub>140</sub> Asp Lys Val Lys

His Asp Leu Arg Trp Val<sub>150</sub> Ala Arg Tyr Gly Val<sub>155</sub> Asp Asn Gly Lys Pro<sub>160</sub>

Ser Thr Lys Pro Ser<sub>165</sub> Ile Pro Tyr Asp Leu<sub>170</sub> Trp Gln Tyr Thr Ser Lys<sub>175</sub>

Gly Arg Ile Lys<sub>180</sub> Ala Ile Ala Ser Pro<sub>185</sub> Val Asp Met Asn Thr<sub>190</sub> Cys Ser

Ser Asp Ile<sub>195</sub> Leu Asn Lys Leu Lys<sub>200</sub> Gly Ser Lys Ala Pro<sub>205</sub> Val Lys Pro

Ala Pro<sub>210</sub> Lys Pro Thr Pro Ser<sub>215</sub> Lys Pro Ala Pro Ala<sub>220</sub> Lys Pro Ala Pro

Lys Thr Thr Thr Lys Tyr<sub>230</sub> Val Asn Thr Ala His<sub>235</sub> Leu Asn Ile Arg Glu<sub>240</sub>

Lys Ala Ser Ala Asp<sub>245</sub> Ser Lys Val Leu Gly<sub>250</sub> Val Leu Asp Leu Asn Asp<sub>255</sub>

Ser Val Gln Val<sub>260</sub> Ile Ser Glu Ser Gly<sub>265</sub> Gly Trp Ser Lys Leu<sub>270</sub> Lys Ser

Gly Asn Lys Gln Val Tyr Val Ser Ser Lys Tyr Leu Ser Lys Ser Lys

275

280

285

Thr Thr Pro Lys Ala Lys Pro Ser Ser Lys Gln Tyr Tyr Thr Ile Lys  
 290 295 300

Ser Gly Asp Asn Leu Ser Tyr Ile Ala Lys Lys Tyr Lys Thr Thr Val  
 305 310 315 320

Lys Gln Ile Gln Asn Trp Asn Gly Ile Lys Asp Ala Asn Lys Ile Tyr  
 325 330 335

Ala Gly Gln Lys Ile Arg Val Lys  
 340

&lt;210&gt; 4

&lt;211&gt; 291

&lt;212&gt; PRT

&lt;213&gt; Bacteriophage P35

&lt;400&gt; 4

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

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

Val Lys Glu Ala Tyr Asp Arg Tyr Gly Ile Gly Ile Ile Val Ser Gln  
 35 40 45

Gly Tyr Arg Ser Ile Ala Glu Gln Asn Gly Leu Tyr Ala Gln Gly Arg  
 50 55 60

Thr Lys Pro Gly Asn Ile Val Thr Asn Ala Lys Gly Gly Gln Ser Asn  
 65 70 75 80

His Asn Phe Gly Val Ala Val Asp Phe Ala Ile Asp Leu Ile Asp Asp  
 85 90 95

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

Lys Arg Arg Gly Phe Lys Trp Gly Gly Asp Trp Lys Ser Phe Thr Asp  
 115 120 125

Leu Pro His Phe Glu Ala Cys Asp Trp Tyr Arg Gly Glu Arg Lys Tyr  
 130 135 140

Lys Val Asp Thr Ser Glu Trp Lys Lys Lys Glu Asn Ile Asn Ile Val  
 145 150 155 160

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

PCT68898\_SeqList\_App1No notyetassigned.txt

Lys Ser Val Arg Gln Trp Lys His Gly Thr Lys Val Lys Leu Thr Lys  
180 185 190

His Asn Ser His Trp Tyr Thr Gly Val Val Lys Asp Gly Asn Lys Ser  
195 200 205

Val Arg Gly Tyr Ile Tyr His Ser Met Ala Lys Val Thr Ser Lys Asn  
210 215 220

Ser Asp Gly Ser Val Asn Ala Thr Ile Asn Ala His Ala Phe Cys Trp  
225 230 235 240

Asp Asn Lys Lys Leu Asn Gly Gly Asp Phe Ile Asn Leu Lys Arg Gly  
245 250 255

Phe Lys Gly Ile Thr His Pro Ala Ser Asp Gly Phe Tyr Pro Leu Tyr  
260 265 270

Phe Ala Ser Arg Lys Lys Thr Phe Tyr Ile Pro Arg Tyr Met Phe Asp  
275 280 285

Ile Lys Lys  
290

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1 5 10 15

Asp Ser Gly Ala Thr Gly Glu Gly Tyr Arg Glu Asp Asp Leu Thr Leu  
20 25 30

Asp Ile Ala Lys Arg Thr Thr Lys Val Leu Arg Gly Ala Gly His Thr  
35 40 45

Val Ile Asn Asn Arg Thr Thr Asp Val Asn Arg Asn Ile Ser Ala Asp  
50 55 60

Ala Lys Leu Ala Asn Arg Glu Lys Val Asp Ala Val Ile Glu Phe His  
65 70 75 80

Phe Asp Ala Ala Gly Ala Ser Ala Glu Gly Thr Thr Gly Phe Tyr Cys  
85 90 95

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

PCT68898\_SeqList\_App1No notyetassigned.txt

Leu Asp Asp Val Phe Lys Asp Arg Asn Val Lys Pro Asp Thr Ser Thr  
115 120 125

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

Leu Gln Glu Val Ala Phe Ile Thr Asn Lys Asn Asp Met Ile Lys Tyr  
145 150 155 160

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

Ser Tyr Phe Asn Glu Lys Leu Pro Glu Gln Asn Pro Asn Arg His Asp  
180 185 190

Gly Ala Val Val Asp Ser Ile Pro Ala Leu Pro Lys Pro Asp Phe Lys  
195 200 205

Thr Val Pro Ser Lys Met Tyr Lys Ala Gly Ser Glu Leu Leu Val Tyr  
210 215 220

Asp His Asn Lys Tyr Trp Tyr Lys Thr Tyr Ile Asn Asp Lys Leu Cys  
225 230 235 240

Tyr Ile Tyr Lys Ser Phe Cys Ile Ser Asn Gly Lys Lys Asp Ser Lys  
245 250 255

Gly Arg Ile Pro Ile Lys Ile Lys Ser Val Lys Asp Leu Arg Ile Pro  
260 265 270

Val Trp Asp Asn Thr Lys Leu Ser Ser Gly Lys Ile Lys Trp Tyr Ala  
275 280 285

Pro Asn Thr Lys Leu Ser Trp Tyr Asn Asn Lys Lys Gly Tyr Leu Glu  
290 295 300

Leu Tyr Tyr Pro Asn Gln Gly Trp Tyr Tyr Thr Ala Asn Tyr Phe Leu  
305 310 315 320

Lys

<210> 6  
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1 5 10 15

PCT68898\_SeqList\_App1No notyetassigned.txt

Ala Glu Asp Ile Leu Ser Glu Ile Lys Glu Ala Glu Lys Val Leu Asn  
20 25 30

Ala Ala Ser Asp Glu Leu Lys Arg Glu Gly His Asn Val Lys Thr Phe  
35 40 45

Ile Asp Arg Thr Ser Thr Thr Gln Ser Ala Asn Leu Asn Lys Ile Val  
50 55 60

Asn Trp His Asn Ala Asn Pro Ala Asp Val His Ile Ser Val His Leu  
65 70 75 80

Asn Ala Gly Lys Gly Thr Gly Val Glu Val Trp Tyr Tyr Ala Gly Asp  
85 90 95

Glu Lys Gly Arg Lys Leu Ala Val Glu Ile Ser Ala Lys Met Ala Lys  
100 105 110

Ala Leu Gly Leu Pro Asn Arg Gly Ala Lys Ala Thr Lys Asp Leu Arg  
115 120 125

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

Val Asp Arg Lys Glu Asp Ala Asn Ala Ile His Lys Ser Gly Met Tyr  
145 150 155 160

Asp Lys Leu Gly Ile Ala Ile Ala Glu Gly Leu Thr Gly Lys Thr Val  
165 170 175

Ala Ala Lys Asn Pro Asn Arg His Ser Gly Ala Val Val Asp Ser Val  
180 185 190

Pro Met Leu Ser Lys Met Asp Phe Lys Ser Ser Pro Ile Lys Met Tyr  
195 200 205

Lys Ala Gly Ser Ser Leu Leu Val Tyr Glu His Asn Lys Tyr Trp Tyr  
210 215 220

Lys Ala Tyr Ile Asn Asp Lys Leu Cys Tyr Ile Tyr Lys Ser Phe Cys  
225 230 235 240

Ile Ser Asn Gly Lys Lys Asp Ala Lys Gly Arg Ile Lys Val Arg Ile  
245 250 255

Lys Ser Ala Lys Asp Leu Arg Ile Pro Val Trp Asn Asn Thr Lys Leu  
260 265 270

Asn Ser Gly Lys Ile Lys Trp Tyr Ser Pro Gly Thr Lys Leu Ser Trp  
275 280 285



PCT68898\_SeqList\_App1No notyetassigned.txt

Tyr Asp Asn Lys Lys Gly Tyr Leu Glu Leu Trp Tyr Glu Lys Asp Gly  
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Trp Tyr Tyr Thr Ala Asn Tyr Phe Leu Lys  
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<212> PRT  
<213> Bacteriophage A006

<400> 7

Met Ala Leu Thr Glu Ala Trp Leu Ile Glu Lys Ala Asn Arg Lys Leu  
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Asn Val Ser Gly Met Asn Lys Ser Val Ala Asp Lys Thr Arg Asn Val  
20 25 30

Ile Lys Lys Met Ala Lys Lys Gly Ile Tyr Leu Cys Val Ala Gln Gly  
35 40 45

Tyr Arg Ser Ser Ala Glu Gln Asn Ala Leu Tyr Ala Gln Gly Arg Thr  
50 55 60

Lys Pro Gly Ala Val Val Thr Asn Ala Lys Gly Gly Gln Ser Asn His  
65 70 75 80

Asn Tyr Gly Val Ala Val Asp Leu Cys Leu Tyr Thr Ser Asp Gly Lys  
85 90 95

Asn Val Ile Trp Glu Ser Thr Thr Ser Arg Trp Lys Thr Val Val Ser  
100 105 110

Ala Met Lys Ala Glu Gly Phe Glu Trp Gly Gly Asp Trp Lys Ser Phe  
115 120 125

Lys Asp Tyr Pro His Phe Glu Leu Tyr Asp Ala Ala Gly Gly Glu Lys  
130 135 140

Ala Pro Ser Thr Ser Ala Ser Lys Pro Ala Thr Ser Thr Ser Ser Asn  
145 150 155 160

Lys Asn Val Tyr Tyr Thr Glu Asn Pro Arg Lys Val Lys Thr Leu Val  
165 170 175

Gln Cys Asp Leu Tyr Asn Ser Val Asp Phe Thr Glu Lys His Lys Thr  
180 185 190

Gly Gly Thr Tyr Pro Ala Gly Thr Val Phe Thr Ile Ser Gly Met Gly  
195 200 205

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

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215

220

Leu Thr Ala Asn Lys Lys Phe Val Lys Lys Ile  
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&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; Bacteriophage B025

&lt;400&gt; 8

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 20 25 30

Lys Asn Gly Ile Glu Val Leu Val Tyr Glu Thr Ile Arg Thr Lys Glu  
 35 40 45

Gln Gln Ala Ala Asn Val Ala Asn Gly Lys Ser Gln Thr Met Arg Ser  
 50 55 60

Tyr His Ile Val Gly Gln Ala Phe Asp Phe Val Met Ala Lys Gly Lys  
 65 70 75 80

Thr Val Asp Trp Gly Gly Tyr Lys Thr Ala Lys Ala Lys Lys Val Ile  
 85 90 95

Ala Lys Ala Lys Ala Leu Gly Phe Ser Trp Gly Gly Asp Trp Ser Gly  
 100 105 110

Phe Val Asp Cys Pro His Met Gln Tyr Glu Tyr Lys Gly Tyr Gly Thr  
 115 120 125

Asp Lys Phe Thr Ala Asp Lys Leu Val Ala Asn Asn Lys Thr Gly Lys  
 130 135 140

Gln Gly Val Tyr Ala Arg Asp Phe Leu Asn Ile Arg Thr Lys Ala Thr  
 145 150 155 160

Trp Asp Ser Pro Val Ala Phe Lys Val Pro Ile Tyr Tyr Tyr Ala Gln  
 165 170 175

Ile Leu Trp Asp Thr Lys Asn Gly Asp Trp Val Gln Ile Glu Phe Gln  
 180 185 190

Gly Lys Lys Gly Trp Tyr Lys Pro Ser Phe Lys Glu Tyr Trp Tyr Glu  
 195 200 205

Lys Asp Pro Cys Thr Ser Tyr Ile Cys Val Ala Asp Val Asn Phe Arg  
 210 215 220

PCT68898\_SeqList\_App1No notyetassigned.txt

Lys Ser Ser Lys Trp Asp Ser Pro Val Ala Gln Lys Lys Lys Lys Gly  
225 230 235 240

Glu Thr Val Arg Met Val Lys Lys Ala Lys Asn Gly Trp Leu Glu Phe  
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260 265 270

Val Lys Lys Lys  
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<212> PRT  
<213> Bacteriophage P100

<400> 9

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20 25 30

Asp Thr Leu Ala Glu Lys Val Ile Ser Val Thr Thr Lys Asn Ala Met  
35 40 45

Ser Asp Asp Ser Ala Val Phe Ser Ile Val Val Ala Gly Asp Met Glu  
50 55 60

Trp Asp Lys Ile Leu Asp Ser Asn Asp Val Val Ile Leu Lys Ile Tyr  
65 70 75 80

Pro Asn Leu Arg Val Met Met Pro Asp Asn Val Val Val Leu Val Gly  
85 90 95

Leu Ile Ser Glu Val Arg Arg Glu Gly Asp Tyr Ser Asn Asn Ser Ile  
100 105 110

Ile Tyr Arg Ile Thr Gly Gln Ser Phe Ala Lys Ser Phe Met Gln Phe  
115 120 125

Gln Leu Gly Val Ile Gln Glu Val Ser Val Val Ile Thr Asp Ile Gly  
130 135 140

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

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

PCT68898\_SeqList\_App1No notyetassigned.txt

Lys Tyr Asn Phe Asn Arg Glu Tyr Thr Met Glu Asn Phe Leu Asp Tyr  
 180 185 190  
 Ser Phe Ser Ser Trp Lys Asp Tyr Glu Lys Leu Ala Asp Pro Thr Pro  
 195 200 205  
 Phe Ile Asn Tyr Glu Gly Ser Leu Lys Gln Leu Leu Asp Asp Val Thr  
 210 215 220  
 Ala Lys Pro Phe Asn Glu Leu Phe Phe Glu Ser Thr Ser Asp Glu Lys  
 225 230 235 240  
 Cys Lys Met Ile Met Arg Arg Thr Pro Phe Asn Lys Glu Asp Trp Asp  
 245 250 255  
 Lys Leu Pro Ser Tyr Lys Ile Ser Thr Glu Ala Val Ile Ser Asp Ser  
 260 265 270  
 Leu Ala Lys Gly Asp Thr Glu Ala Tyr Ser Ile Phe Asn Val Thr Ser  
 275 280 285  
 Gly Asn Met Ala Gly Ala Thr Ser Val Asp Leu Asn Ser Phe Pro Gln  
 290 295 300  
 Tyr His Gln Ala Leu Val Asp Lys Tyr Gly Tyr Lys Lys Leu Glu Val  
 305 310 315 320  
 Asp Asn Arg Tyr Leu Phe Glu Ser Ser Thr Asp Gly Ser Ser Thr Thr  
 325 330 335  
 Glu Lys Ala Asp Val Gly Ser Lys Glu Lys Thr Lys Thr Val Ile Thr  
 340 345 350  
 Tyr Ser Lys Phe Asn Ser Phe Met Arg Ser Tyr Thr Ser Asp Gln Val  
 355 360 365  
 Arg Met Asn Gln Ser Ser Ile Ala Lys Ser Leu Val Asp Ser Tyr Asp  
 370 375 380  
 Lys Leu Thr Thr Ser Gln Ala Asn Gln Leu Leu Ala Lys Tyr Ser Ala  
 385 390 395 400  
 Val Gly Ala Ile Ser Glu Ala Asp Phe Lys Lys Ile Val Gly Asp Ile  
 405 410 415  
 Ala Glu Gly Asp Asn Thr Gly Thr Ala Thr Leu Asp Phe Asp Ser Val  
 420 425 430  
 Asn Ser Trp Phe Ser Leu Asn Tyr Ser Ser Leu Ser Glu Val Ser Thr  
 435 440 445

PCT68898\_SeqList\_App1No notyetassigned.txt

Asn Arg Asp Ala Thr Ile Lys Ala Phe Val Lys Asn Phe Ala Asn Thr  
 450 455 460  
 Asp Glu Asp Gln Ala Thr Lys Ile Val Ala Leu Tyr Ile Ser Ser Gln  
 465 470 475 480  
 Gly Val Met Thr Lys Glu Lys Phe Asp Ala Ile Ile Lys Glu Ser Thr  
 485 490 495  
 Ser Ser Ser Thr Lys Asp Pro Asp Asn Thr Thr Gly Asn Ser Ser Ser  
 500 505 510  
 Ala Leu Gln Tyr Phe Ser Lys Thr Ile Tyr Asn Trp Tyr Ser Glu Asn  
 515 520 525  
 Ala Asn Phe Tyr Ala Gly Asp Ile Lys Val Ile Gly Ser Pro Val Tyr  
 530 535 540  
 Arg Leu Gly Ser Lys Leu Leu Val Glu Asp Lys Gln Gln Gly Asp Glu  
 545 550 555 560  
 Trp Glu Phe Tyr Ile Glu Ser Val Ser His Glu Tyr Ser Tyr Thr Ala  
 565 570 575  
 Gly Tyr Thr Thr Thr Leu Gly Val Thr Arg Gly Leu Asn Asn Lys Gly  
 580 585 590  
 Lys Asp Arg Phe Thr His Leu Trp Gly Lys Ser Ser Asp Phe Lys Gly  
 595 600 605  
 Gly Leu Leu Gly Glu Lys Thr Ser Ala Glu Leu Ile Gln Glu Ala Gly  
 610 615 620  
 Ser Thr Ser Ser Gly Ser Asp Gly Ser Gly Asp Val Ser Ala Pro Asp  
 625 630 635 640  
 Val Gln Gly Ser Asp Val Ala Val Ala Ala Leu Arg Tyr Gly Leu Ala  
 645 650 655  
 His Lys Lys Pro Glu Lys Lys Ser Val Tyr Ser Phe Gly Gly Gly Arg  
 660 665 670  
 Gly Ser Ser Asn Pro Met Glu Gly Lys Glu Pro Tyr Ala Met Asp Cys  
 675 680 685  
 Ser Ser Phe Val Trp Trp Cys Tyr Lys Ala Cys Gly Val Thr Leu Ala  
 690 695 700  
 Gly Ala Gln Thr Gln Ala Ile Leu Gly Asp Asp Arg Phe Asn Thr Val  
 705 710 715 720

PCT68898\_SeqList\_App1No notyetassigned.txt

Ser Ser Arg Gly Ser Lys Ser Lys Glu Ile Phe Lys Lys Met Gln Val  
725 730 735

Gly Asp Leu Val Tyr Phe Tyr Asp Asn Asn Thr His Ile Gly Met Tyr  
740 745 750

Ala Gly Glu Gly Lys Phe Leu Gly Cys Asn Gly Asp Gly Ser Trp Asp  
755 760 765

Thr Asn Gly Gly Val Gln Leu Lys Pro Met Asp Ser Gly Tyr Trp Trp  
770 775 780

Thr Gln Phe Gln Gly His Val Ile Arg Phe Val  
785 790 795

<210> 10  
<211> 590  
<212> PRT  
<213> *Listeria monocytogenes*

<400> 10

Met Gln Lys Thr Arg Lys Glu Arg Ile Leu Glu Ala Leu Gln Glu Glu  
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Lys Lys Asn Lys Lys Ser Lys Lys Phe Lys Thr Gly Ala Thr Ile Ala  
20 25 30

Gly Val Thr Ala Ile Ala Thr Ser Ile Thr Val Pro Gly Ile Glu Val  
35 40 45

Ile Val Ser Ala Asp Glu Thr Ala Pro Ala Asp Glu Ala Ser Lys Ser  
50 55 60

Ala Glu Ala Asn Thr Thr Lys Glu Ala Ser Ala Thr Ala Thr Pro Glu  
65 70 75 80

Asn Thr Ala Lys Gln Thr Val Gly Pro Gln Gln Thr Glu Thr Lys Glu  
85 90 95

Gln Thr Lys Thr Pro Glu Glu Lys Gln Ala Ala Thr Asn Gln Val Glu  
100 105 110

Lys Ala Pro Ala Glu Pro Ala Thr Val Ser Asn Pro Asp Asn Ala Thr  
115 120 125

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

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

PCT68898\_SeqList\_App1No notyetassigned.txt

Ser Ser Gln Ile Ala Ala Glu Asn Asp Leu Tyr Ala Ser Val Met Ile  
165 170 175

Ala Gln Ala Ile Leu Glu Ser Ala Tyr Gly Thr Ser Glu Leu Gly Ser  
180 185 190

Ala Pro Asn Tyr Asn Leu Phe Gly Ile Lys Gly Ala Tyr Asn Gly Gln  
195 200 205

Ser Tyr Thr Lys Gln Thr Leu Glu Asp Asp Gly Lys Gly Asn Tyr Tyr  
210 215 220

Thr Ile Thr Ala Lys Phe Arg Lys Tyr Pro Ser Tyr His Gln Ser Leu  
225 230 235 240

Glu Asp Tyr Ala Gln Val Ile Arg Lys Gly Pro Ser Trp Asn Pro Asn  
245 250 255

Tyr Tyr Ser Lys Ala Trp Lys Ser Asn Thr Thr Ser Tyr Lys Asp Ala  
260 265 270

Thr Lys Ala Leu Thr Gly Thr Tyr Ala Thr Asp Thr Ala Tyr Ala Thr  
275 280 285

Lys Leu Asn Asp Leu Ile Ser Arg Tyr Asn Leu Thr Gln Tyr Asp Ser  
290 295 300

Gly Lys Thr Thr Gly Gly Asn Ser Gly Ser Thr Gly Asn Ser Ser Asn  
305 310 315 320

Thr Gly Asn Thr Asn Thr Ser Asn Ala Lys Ile Tyr Thr Val Val Lys  
325 330 335

Gly Asp Ser Leu Trp Arg Ile Ala Asn Asn His Lys Val Thr Val Ala  
340 345 350

Asn Leu Lys Ala Trp Asn Asn Leu Lys Ser Asp Phe Ile Tyr Pro Gly  
355 360 365

Gln Lys Leu Lys Val Ser Ala Gly Ser Thr Thr Ser Asp Thr Asn Thr  
370 375 380

Ser Lys Pro Ser Thr Gly Thr Ser Thr Ser Lys Pro Ser Thr Gly Thr  
385 390 395 400

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

Arg Ile Ala Asn Asn Asn Lys Val Thr Ile Ala Asn Leu Lys Ala Trp  
420 425 430

PCT68898\_SeqList\_App1No notyetassigned.txt

Asn Asn Leu Lys Ser Asp Phe Ile Tyr Pro Gly Gln Lys Leu Lys Val  
435 440 445

Ser Ala Gly Ser Thr Ser Asn Thr Asn Thr Ser Lys Pro Ser Thr Asn  
450 455 460

Thr Asn Thr Ser Lys Pro Ser Thr Asn Thr Asn Thr Asn Ala Lys Val  
465 470 475 480

Tyr Thr Val Ala Lys Gly Asp Ser Leu Trp Arg Ile Ala Asn Asn Asn  
485 490 495

Lys Val Thr Ile Ala Asn Leu Lys Ala Trp Asn Asn Leu Lys Ser Asp  
500 505 510

Phe Ile Tyr Pro Gly Gln Lys Leu Lys Val Ser Ala Gly Ser Thr Thr  
515 520 525

Asn Thr Asn Thr Ala Lys Pro Ser Thr Asn Asn Pro Ser Asn Ser Thr  
530 535 540

Val Lys Thr Tyr Thr Val Lys Lys Gly Asp Ser Leu Trp Ala Ile Ser  
545 550 555 560

Arg Gln Tyr Lys Thr Thr Val Asp Asn Ile Lys Ala Trp Asn Lys Leu  
565 570 575

Thr Ser Asn Met Ile His Val Gly Gln Lys Leu Thr Ile Lys  
580 585 590

<210> 11  
<211> 774  
<212> PRT  
<213> *Listeria monocytogenes*  
<400> 11

Met Ile Asn Lys Lys Trp Met Lys Ile Val Met Ile Pro Met Leu Val  
1 5 10 15

Val Pro Met Tyr Gly Leu Thr Thr Val Gly Gly Gln Leu Gln Asp Ser  
20 25 30

Leu Thr Gly Glu Asn Ser Phe Val Lys Glu Val Glu Ala Ala Thr Thr  
35 40 45

Ala Ser Gln Gln Ala Phe Ile Asp Lys Ile Ala Pro Ala Ala Gln Ala  
50 55 60

Ser Gln Glu Lys Tyr His Leu Leu Ser Ser Ile Thr Leu Ala Gln Ala  
65 70 75 80

Ile Leu Glu Ser Gly Trp Gly Lys Ser Gly Leu Ala Thr Gln Gly Tyr  
Seite 16



Asn Leu Phe Gly Ile Lys Gly Lys Tyr Asn Gly Gln Ser Val Ile Met  
100 105 110

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

Phe Arg Lys Tyr Pro Ser Trp Asn Glu Ser Val Thr Asp His Thr Leu  
130 135 140

Leu Leu Val Asn Gly Thr Ser Trp Asn Lys Asp Leu Tyr Lys Lys Val  
145 150 155 160

Val Asp Ala Thr Asp Tyr Lys Val Thr Ala Met Glu Pro Gln Lys Ala  
165 170 175

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

Glu Asn Tyr Asp Leu Ala Lys Tyr Asp Val Leu Tyr Asp Lys Ile Leu  
195 200 205

Thr Gln Lys Ser Thr Ser Gly Lys Ala Thr Val Thr Ser Pro Thr Gly  
210 215 220

Asn Gly Val Trp Thr Leu Pro Tyr Lys Val Lys Gly Val Gln Ser Val  
225 230 235 240

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

Ala Thr Thr Lys Arg Gly Thr Tyr Tyr Gln Phe Lys Tyr Asn Gly Lys  
260 265 270

Val Val Gly Trp Val Asp Gly Lys Ala Leu Thr Ile Tyr Asp Ser Val  
275 280 285

Asn Tyr Asp Lys Val Asn Val Gly Arg Ala Lys Ile Thr Ser Pro Val  
290 295 300

Ser Asn Gly Ile Trp Ser Lys Pro Tyr Asn Val Tyr Gly Arg Glu Phe  
305 310 315 320

Val Thr Asn Ala Thr Thr Tyr Ala Gln Gln Glu Ile Lys Leu Leu Arg  
325 330 335

Glu Ala Gln Thr Ala Lys Gly Thr Tyr Tyr Gln Phe Ser Ile Asn Asn  
340 345 350

Lys Thr Ile Gly Trp Ile Asp Lys Arg Ala Leu Thr Ile Tyr Pro Tyr

355

360

365

Asp Ser Ile Ile Ser Ser Lys Asn Val Asn Leu Asp Gly Gln Ile Thr  
 370 375 380

Asn Pro Thr Gly Asn Gly Ile Trp Thr Lys Ala Tyr Lys Leu Glu Gly  
 385 390 395 400

Thr Thr Ser Val Ala Gln Ala Thr Lys Tyr Ala Asn Lys Asp Val Lys  
 405 410 415

Ile Ser Gln Gln Ile Glu Thr Gln His Gly Thr Tyr Tyr Asn Ile Ser  
 420 425 430

Ile Asp Gly Lys Ala Ile Gly Trp Leu Asp Arg Asn Ala Ile Thr Leu  
 435 440 445

Tyr Asp Gln Glu Glu Tyr Asn Lys Thr Val Ala Ile Asp Ala Val Val  
 450 455 460

Lys Asn Val Lys Gly Asn Ala Val Trp Thr Glu Pro Tyr Arg Thr Val  
 465 470 475 480

Gly Thr Lys Leu Ile Gly Pro Ala Glu Thr Tyr Leu Asn Lys Glu Val  
 485 490 495

Glu Val Val Arg Glu Ala Lys Thr Pro Lys Gly Thr Tyr Tyr Gln Phe  
 500 505 510

Lys Ser Gly Gly Lys Val Ile Gly Trp Leu Asp Lys Lys Ala Phe Asp  
 515 520 525

Val Tyr Asp Asn Ile Asn Tyr Asn Lys Ala Val Asn Leu Asp Ala Val  
 530 535 540

Val Glu Asn Val Thr Gly Asn Ala Val Trp Thr Ala Pro Tyr Lys Ser  
 545 550 555 560

Lys Gly Val Lys Leu Val Thr Ser Ala Ala Thr Tyr Lys Gly Lys Ala  
 565 570 575

Thr Lys Ile Thr Arg Glu Ala Gln Thr Ser Arg Gly Thr Tyr Tyr Glu  
 580 585 590

Phe Ser Val Asp Gly Lys Val Ile Gly Trp Leu Asp Lys Lys Ala Phe  
 595 600 605

Asp Val Tyr Asp Asn Ile Asn Tyr Asn Lys Ala Val Asn Leu Asp Ala  
 610 615 620

Val Val Glu Asn Val Thr Gly Asn Ala Val Trp Thr Ala Pro Tyr Lys

PCT68898\_SeqList\_App1No\_notyetassigned.txt

625                      630                      635                      640

Ser Lys Gly Val Lys Leu Val Thr Ser Ala Ala Thr Tyr Lys Asp Lys  
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Ala Thr Lys Ile Thr Arg Glu Ala Gln Thr Ser Arg Gly Thr Tyr Tyr  
660 665 670

Glu Phe Ser Val Asn Gly Lys Val Ile Gly Trp Leu Asp Lys Lys Ala  
675 680 685

Phe Asp Val Tyr Asp Ser Ile Glu Tyr Asn Lys Ala Ile Asn Met Thr  
690 695 700

Gly 705 Leu Leu Ser Asn Ala 710 Pro Gly Asn Gly 715 Ile Trp Thr Glu Pro Tyr 720

Arg Val Ile Gly Thr Lys Asn Val Gly Gln Ala Thr Ala Tyr Ala Asn  
725 730 735

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

Gly Pro Gly Glu Ala Tyr Met Gly Val Gly Thr Arg Ile Glu Gln Gly  
50 55 60

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

Gly Val Gln Gly Ile Asp Val Ser His Trp Gln Gly Ser Ile Asn Trp  
85 90 95

PCT68898\_SeqList\_App1No notyetassigned.txt

Ser Ser Val Lys Ser Ala Gly Met Ser Phe Ala Tyr Ile Lys Ala Thr  
100 105 110

Glu Gly Thr Asn Tyr Lys Asp Asp Arg Phe Ser Ala Asn Tyr Thr Asn  
115 120 125

Ala Tyr Asn Ala Gly Ile Ile Arg Gly Ala Tyr His Phe Ala Arg Pro  
130 135 140

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

Gly Gly Trp Ser Arg Asp Asn Arg Thr Leu Pro Gly Val Leu Asp Ile  
165 170 175

Glu His Asn Pro Ser Gly Ala Met Cys Tyr Gly Leu Ser Thr Thr Gln  
180 185 190

Met Arg Thr Trp Ile Asn Asp Phe His Ala Arg Tyr Lys Ala Arg Thr  
195 200 205

Thr Arg Asp Val Val Ile Tyr Thr Thr Ala Ser Trp Trp Asn Thr Cys  
210 215 220

Thr Gly Ser Trp Asn Gly Met Ala Ala Lys Ser Pro Phe Trp Val Ala  
225 230 235 240

His Trp Gly Val Ser Ala Pro Thr Val Pro Ser Gly Phe Pro Thr Trp  
245 250 255

Thr Phe Trp Gln Tyr Ser Ala Thr Gly Arg Val Gly Gly Val Ser Gly  
260 265 270

Asp Val Asp Arg Asn Lys Phe Asn Gly Ser Ala Ala Arg Leu Leu Ala  
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Leu Ala Asn Asn Thr Ala  
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PCT68898\_SeqList\_App1No notyetassigned.txt

Pro Gly Glu Ser Val Trp Ala Ile Ser Asn Lys Tyr Gly Ile Ser Ile  
35 40 45

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

Ser Arg Pro Ser Thr Asn Ser Gly Gly Gly Ser Tyr Tyr Thr Val Gln  
85 90 95

Ala Gly Asp Ser Leu Ser Leu Ile Ala Ser Lys Tyr Gly Thr Thr Tyr  
100 105 110

Gln Asn Ile Met Arg Leu Asn Gly Leu Asn Asn Phe Phe Ile Tyr Pro  
115 120 125

Gly Gln Lys Leu Lys Val Ser Gly Thr Ala Ser Ser Ser Asn Ala Ala  
130 135 140

Ser Asn Ser Ser Arg Pro Ser Thr Asn Ser Gly Gly Gly Ser Tyr Tyr  
145 150 155 160

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

Thr Thr Tyr Gln Lys Ile Met Ser Leu Asn Gly Leu Asn Asn Phe Phe  
180 185 190

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

Ser Gly Ser Ala Thr Thr Thr Asn Arg Gly Tyr Asn Thr Pro Val Phe  
210 215 220

Ser His Gln Asn Leu Tyr Thr Trp Gly Gln Cys Thr Tyr His Val Phe  
225 230 235 240

Asn Arg Arg Ala Glu Ile Gly Lys Gly Ile Ser Thr Tyr Trp Trp Asn  
245 250 255

Ala Asn Asn Trp Asp Asn Ala Ala Ala Asp Gly Tyr Thr Ile Asp  
260 265 270

Asn Arg Pro Thr Val Gly Ser Ile Ala Gln Thr Asp Val Gly Tyr Tyr  
275 280 285

Gly His Val Met Phe Val Glu Arg Val Asn Asn Asp Gly Ser Ile Leu  
290 295 300

PCT68898\_SeqList\_AppNo notyetassigned.txt

Val Ser Glu Met Asn Tyr Ser Ala Ala Pro Gly Ile Leu Thr Tyr Arg  
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PCT68898\_SeqList\_App\No notyetassigned.txt 32

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