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FIG 1

<110> Impossible Foods Inc.

<210> 1

<211> 161

<212> PRT

<213> *Vigna radiata*

<400> 1

```

Met Thr Thr Thr Leu Glu Arg Gly Phe Thr Glu Glu Gln Glu Ala Leu
 1          5          10          15
Val Val Lys Ser Trp Asn Val Met Lys Lys Asn Ser Gly Glu Leu Gly
          20          25          30
Leu Lys Phe Phe Leu Lys Ile Phe Glu Ile Ala Pro Ser Ala Gln Lys
          35          40          45
Leu Phe Ser Phe Leu Arg Asp Ser Thr Val Pro Leu Glu Gln Asn Pro
          50          55          60
Lys Leu Lys Pro His Ala Val Ser Val Phe Val Met Thr Cys Asp Ser
65          70          75          80
Ala Val Gln Leu Arg Lys Ala Gly Lys Val Thr Val Arg Glu Ser Asn
          85          90          95
Leu Lys Lys Leu Gly Ala Thr His Phe Arg Thr Gly Val Ala Asn Glu
          100          105          110
His Phe Glu Val Thr Lys Phe Ala Leu Leu Glu Thr Ile Lys Glu Ala
          115          120          125
Val Pro Glu Met Trp Ser Pro Ala Met Lys Asn Ala Trp Gly Glu Ala
          130          135          140
Tyr Asp Gln Leu Val Asp Ala Ile Lys Tyr Glu Met Lys Pro Pro Ser
145          150          155          160
Ser

```

<210> 2

<211> 133

<212> PRT

<213> *Methylobacterium thermophilum*

<400> 2

```

Met Ile Asp Gln Lys Glu Lys Glu Leu Ile Lys Glu Ser Trp Lys Arg
 1          5          10          15
Ile Glu Pro Asn Lys Asn Glu Ile Gly Leu Leu Phe Tyr Ala Asn Leu
          20          25          30
Phe Lys Glu Glu Pro Thr Val Ser Val Leu Phe Gln Asn Pro Ile Ser
          35          40          45
Ser Gln Ser Arg Lys Leu Met Gln Val Leu Gly Ile Leu Val Gln Gly

```

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FIG. 1 - CONTINUED

```

      50              55              60
Ile Asp Asn Leu Glu Gly Leu Ile Pro Thr Leu Gln Asp Leu Gly Arg
65              70              75              80
Arg His Lys Gln Tyr Gly Val Val Asp Ser His Tyr Pro Leu Val Gly
      85              90              95
Asp Cys Leu Leu Lys Ser Ile Gln Glu Tyr Leu Gly Gln Gly Phe Thr
      100              105              110
Glu Glu Ala Lys Ala Ala Trp Thr Lys Val Tyr Gly Ile Ala Ala Gln
      115              120              125
Val Met Thr Ala Glu
      130

```

```

<210> 3
<211> 139
<212> PRT
<213> Aquifex aeolicus

```

```

<400> 3
Met Leu Ser Glu Glu Thr Ile Arg Val Ile Lys Ser Thr Val Pro Leu
1              5              10              15
Leu Lys Glu His Gly Thr Glu Ile Thr Ala Arg Met Tyr Glu Leu Leu
      20              25              30
Phe Ser Lys Tyr Pro Lys Thr Lys Glu Leu Phe Ala Gly Ala Ser Glu
      35              40              45
Glu Gln Pro Lys Lys Leu Ala Asn Ala Ile Ile Ala Tyr Ala Thr Tyr
      50              55              60
Ile Asp Arg Leu Glu Glu Leu Asp Asn Ala Ile Ser Thr Ile Ala Arg
65              70              75              80
Ser His Val Arg Arg Asn Val Lys Pro Glu His Tyr Pro Leu Val Lys
      85              90              95
Glu Cys Leu Leu Gln Ala Ile Glu Glu Val Leu Asn Pro Gly Glu Glu
      100              105              110
Val Leu Lys Ala Trp Glu Glu Ala Tyr Asp Phe Leu Ala Lys Thr Leu
      115              120              125
Ile Thr Leu Glu Lys Lys Leu Tyr Ser Gln Pro
      130              135

```

```

<210> 4
<211> 145
<212> PRT
<213> Glycine max

```

```

<400> 4
Met Gly Ala Phe Thr Glu Lys Gln Glu Ala Leu Val Ser Ser Ser Phe
1              5              10              15

```

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FIG. 1 - CONTINUED

Glu Ala Phe Lys Ala Asn Ile Pro Gln Tyr Ser Val Val Phe Tyr Thr
 20 25 30
 Ser Ile Leu Glu Lys Ala Pro Ala Ala Lys Asp Leu Phe Ser Phe Leu
 35 40 45
 Ser Asn Gly Val Asp Pro Ser Asn Pro Lys Leu Thr Gly His Ala Glu
 50 55 60
 Lys Leu Phe Gly Leu Val Arg Asp Ser Ala Gly Gln Leu Lys Ala Asn
 65 70 75 80
 Gly Thr Val Val Ala Asp Ala Ala Leu Gly Ser Ile His Ala Gln Lys
 85 90 95
 Ala Ile Thr Asp Pro Gln Phe Val Val Val Lys Glu Ala Leu Leu Lys
 100 105 110
 Thr Ile Lys Glu Ala Val Gly Asp Lys Trp Ser Asp Glu Leu Ser Ser
 115 120 125
 Ala Trp Glu Val Ala Tyr Asp Glu Leu Ala Ala Ala Ile Lys Lys Ala
 130 135 140
 Phe
 145

<210> 5

<211> 162

<212> PRT

<213> Hordeum vulgare

<400> 5

Met Ser Ala Ala Glu Gly Ala Val Val Phe Ser Glu Glu Lys Glu Ala
 1 5 10 15
 Leu Val Leu Lys Ser Trp Ala Ile Met Lys Lys Asp Ser Ala Asn Leu
 20 25 30
 Gly Leu Arg Phe Phe Leu Lys Ile Phe Glu Ile Ala Pro Ser Ala Arg
 35 40 45
 Gln Met Phe Pro Phe Leu Arg Asp Ser Asp Val Pro Leu Glu Thr Asn
 50 55 60
 Pro Lys Leu Lys Thr His Ala Val Ser Val Phe Val Met Thr Cys Glu
 65 70 75 80
 Ala Ala Ala Gln Leu Arg Lys Ala Gly Lys Ile Thr Val Arg Glu Thr
 85 90 95
 Thr Leu Lys Arg Leu Gly Gly Thr His Leu Lys Tyr Gly Val Ala Asp
 100 105 110
 Gly His Phe Glu Val Thr Arg Phe Ala Leu Leu Glu Thr Ile Lys Glu
 115 120 125
 Ala Leu Pro Ala Asp Met Trp Gly Pro Glu Met Arg Asn Ala Trp Gly
 130 135 140
 Glu Ala Tyr Asp Gln Leu Val Ala Ala Ile Lys Gln Glu Met Lys Pro
 145 150 155 160
 Ala Glu

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FIG. 1 - CONTINUED

<210> 6

<211> 1153

<212> PRT

<213> Magnaporthe oryzae

<400> 6

```

Met Asp Gly Ala Val Arg Leu Asp Trp Thr Gly Leu Asp Leu Thr Gly
 1           5           10           15
His Glu Ile His Asp Gly Val Pro Ile Ala Ser Arg Val Gln Val Met
      20           25           30
Val Ser Phe Pro Leu Phe Lys Asp Gln His Ile Ile Met Ser Ser Lys
      35           40           45
Glu Ser Pro Ser Arg Lys Ser Ser Thr Ile Gly Gln Ser Thr Arg Asn
 50           55           60
Gly Ser Cys Gln Ala Asp Thr Gln Lys Gly Gln Leu Pro Pro Val Gly
 65           70           75           80
Glu Lys Pro Lys Pro Val Lys Glu Asn Pro Met Lys Lys Leu Lys Glu
      85           90           95
Met Ser Gln Arg Pro Leu Pro Thr Gln His Gly Asp Gly Thr Tyr Pro
      100           105           110
Thr Glu Lys Lys Leu Thr Gly Ile Gly Glu Asp Leu Lys His Ile Arg
      115           120           125
Gly Tyr Asp Val Lys Thr Leu Leu Ala Met Val Lys Ser Lys Leu Lys
      130           135           140
Gly Glu Lys Leu Lys Asp Asp Lys Thr Met Leu Met Glu Arg Val Met
 145           150           155           160
Gln Leu Val Ala Arg Leu Pro Thr Glu Ser Lys Lys Arg Ala Glu Leu
      165           170           175
Thr Asp Ser Leu Ile Asn Glu Leu Trp Glu Ser Leu Asp His Pro Pro
      180           185           190
Leu Asn Tyr Leu Gly Pro Glu His Ser Tyr Arg Thr Pro Asp Gly Ser
      195           200           205
Tyr Asn His Pro Phe Asn Pro Gln Leu Gly Ala Ala Gly Ser Arg Tyr
      210           215           220
Ala Arg Ser Val Ile Pro Thr Val Thr Pro Pro Gly Ala Leu Pro Asp
 225           230           235           240
Pro Gly Leu Ile Phe Asp Ser Ile Met Gly Arg Thr Pro Asn Ser Tyr
      245           250           255
Arg Lys His Pro Asn Asn Val Ser Ser Ile Leu Trp Tyr Trp Ala Thr
      260           265           270
Ile Ile Ile His Asp Ile Phe Trp Thr Asp Pro Arg Asp Ile Asn Thr
      275           280           285
Asn Lys Ser Ser Ser Tyr Leu Asp Leu Ala Pro Leu Tyr Gly Asn Ser
      290           295           300
Gln Glu Met Gln Asp Ser Ile Arg Thr Phe Lys Asp Gly Arg Met Lys
 305           310           315           320

```

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FIG. 1 - CONTINUED

Pro	Asp	Cys	Tyr	Ala	Asp	Lys	Arg	Leu	Ala	Gly	Met	Pro	Pro	Gly	Val
				325					330					335	
Ser	Val	Leu	Leu	Ile	Met	Phe	Asn	Arg	Phe	His	Asn	His	Val	Ala	Glu
			340					345					350		
Asn	Leu	Ala	Leu	Ile	Asn	Glu	Gly	Gly	Arg	Phe	Asn	Lys	Pro	Ser	Asp
		355					360					365			
Leu	Leu	Glu	Gly	Glu	Ala	Arg	Glu	Ala	Ala	Trp	Lys	Lys	Tyr	Asp	Asn
		370				375					380				
Asp	Leu	Phe	Gln	Val	Ala	Arg	Leu	Val	Thr	Ser	Gly	Leu	Tyr	Ile	Asn
385					390					395					400
Ile	Thr	Leu	Val	Asp	Tyr	Val	Arg	Asn	Ile	Val	Asn	Leu	Asn	Arg	Val
			405					410						415	
Asp	Thr	Thr	Trp	Thr	Leu	Asp	Pro	Arg	Gln	Asp	Ala	Gly	Ala	His	Val
			420					425					430		
Gly	Thr	Ala	Asp	Gly	Ala	Glu	Arg	Gly	Thr	Gly	Asn	Ala	Val	Ser	Ala
		435					440				445				
Glu	Phe	Asn	Leu	Cys	Tyr	Arg	Trp	His	Ser	Cys	Ile	Ser	Glu	Lys	Asp
		450				455				460					
Ser	Lys	Phe	Val	Glu	Ala	Gln	Phe	Gln	Asn	Ile	Phe	Gly	Lys	Pro	Ala
465					470					475					480
Ser	Glu	Val	Arg	Pro	Asp	Glu	Met	Trp	Lys	Gly	Phe	Ala	Lys	Met	Glu
				485				490					495		
Gln	Asn	Thr	Pro	Ala	Asp	Pro	Gly	Gln	Arg	Thr	Phe	Gly	Gly	Phe	Lys
			500				505						510		
Arg	Gly	Pro	Asp	Gly	Lys	Phe	Asp	Asp	Asp	Asp	Leu	Val	Arg	Cys	Ile
		515				520						525			
Ser	Glu	Ala	Val	Glu	Asp	Val	Ala	Gly	Ala	Phe	Gly	Ala	Arg	Asn	Val
		530				535				540					
Pro	Gln	Ala	Met	Lys	Val	Val	Glu	Thr	Met	Gly	Ile	Ile	Gln	Gly	Arg
545					550					555					560
Lys	Trp	Asn	Val	Ala	Gly	Leu	Asn	Glu	Phe	Arg	Lys	His	Phe	His	Leu
			565					570						575	
Lys	Pro	Tyr	Ser	Thr	Phe	Glu	Asp	Ile	Asn	Ser	Asp	Pro	Gly	Val	Ala
			580				585						590		
Glu	Ala	Leu	Arg	Arg	Leu	Tyr	Asp	His	Pro	Asp	Asn	Val	Glu	Leu	Tyr
		595				600					605				
Pro	Gly	Leu	Val	Ala	Glu	Glu	Asp	Lys	Gln	Pro	Met	Val	Pro	Gly	Val
		610				615				620					
Gly	Ile	Ala	Pro	Thr	Tyr	Thr	Ile	Ser	Arg	Val	Val	Leu	Ser	Asp	Ala
625					630					635					640
Val	Cys	Leu	Val	Arg	Gly	Asp	Arg	Phe	Tyr	Thr	Thr	Asp	Phe	Thr	Pro
			645					650					655		
Arg	Asn	Leu	Thr	Asn	Trp	Gly	Tyr	Lys	Glu	Val	Asp	Tyr	Asp	Leu	Ser
		660					665					670			
Val	Asn	His	Gly	Cys	Val	Phe	Tyr	Lys	Leu	Phe	Ile	Arg	Ala	Phe	Pro
		675					680					685			

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FIG. 1 - CONTINUED

Asn	His	Phe	Lys	Gln	Asn	Ser	Val	Tyr	Ala	His	Tyr	Pro	Met	Val	Val
690						695					700				
Pro	Ser	Glu	Asn	Lys	Arg	Ile	Leu	Glu	Ala	Leu	Gly	Arg	Ala	Asp	Leu
705					710					715					720
Phe	Asp	Phe	Glu	Ala	Pro	Lys	Tyr	Ile	Pro	Pro	Arg	Val	Asn	Ile	Thr
				725					730					735	
Ser	Tyr	Gly	Gly	Ala	Glu	Tyr	Ile	Leu	Glu	Thr	Gln	Glu	Lys	Tyr	Lys
			740					745					750		
Val	Thr	Trp	His	Glu	Gly	Leu	Gly	Phe	Leu	Met	Gly	Glu	Gly	Gly	Leu
			755				760					765			
Lys	Phe	Met	Leu	Ser	Gly	Asp	Asp	Pro	Leu	His	Ala	Gln	Gln	Arg	Lys
	770					775					780				
Cys	Met	Ala	Ala	Gln	Leu	Tyr	Lys	Asp	Gly	Trp	Thr	Glu	Ala	Val	Lys
785					790					795					800
Ala	Phe	Tyr	Ala	Gly	Met	Met	Glu	Glu	Leu	Val	Ser	Lys	Ser	Tyr	
				805					810					815	
Phe	Leu	Gly	Asn	Asn	Lys	His	Arg	His	Val	Asp	Ile	Ile	Arg	Asp	Val
			820					825					830		
Gly	Asn	Met	Val	His	Val	His	Phe	Ala	Ser	Gln	Val	Phe	Gly	Leu	Pro
			835					840					845		
Leu	Lys	Thr	Ala	Lys	Asn	Pro	Thr	Gly	Val	Phe	Thr	Glu	Gln	Glu	Met
						855						860			
Tyr	Gly	Ile	Leu	Ala	Ala	Ile	Phe	Thr	Thr	Ile	Phe	Phe	Asp	Leu	Asp
865					870					875					880
Pro	Ser	Lys	Ser	Phe	Pro	Leu	Arg	Thr	Lys	Thr	Arg	Glu	Val	Cys	Gln
				885					890					895	
Lys	Leu	Ala	Lys	Leu	Val	Glu	Ala	Asn	Val	Lys	Leu	Ile	Asn	Lys	Ile
			900					905					910		
Pro	Trp	Ser	Arg	Gly	Met	Phe	Val	Gly	Lys	Pro	Ala	Lys	Asp	Glu	Pro
			915					920					925		
Leu	Ser	Ile	Tyr	Gly	Lys	Thr	Met	Ile	Lys	Gly	Leu	Lys	Ala	His	Gly
						935					940				
Leu	Ser	Asp	Tyr	Asp	Ile	Ala	Trp	Ser	His	Val	Val	Pro	Thr	Ser	Gly
945					950					955					960
Ala	Met	Val	Pro	Asn	Gln	Ala	Gln	Val	Phe	Ala	Gln	Ala	Val	Asp	Tyr
				965					970					975	
Tyr	Leu	Ser	Pro	Ala	Gly	Met	His	Tyr	Ile	Pro	Glu	Ile	His	Met	Val
				980				985					990		
Ala	Leu	Gln	Pro	Ser	Thr	Pro	Glu	Thr	Asp	Ala	Leu	Leu	Leu	Gly	Tyr
			995				1000					1005			
Ala	Met	Glu	Gly	Ile	Arg	Leu	Ala	Gly	Thr	Phe	Gly	Ser	Tyr	Arg	Glu
						1015					1020				
Ala	Ala	Val	Asp	Asp	Val	Val	Lys	Glu	Asp	Asn	Gly	Arg	Gln	Val	Pro
1025					1030					1035					1040
Val	Lys	Ala	Gly	Asp	Arg	Val	Phe	Val	Ser	Phe	Val	Asp	Ala	Ala	Arg
				1045					1050						1055

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FIG. 1 - CONTINUED

Asp Pro Lys His Phe Pro Asp Pro Glu Val Val Asn Pro Arg Arg Pro
 1060 1065 1070
 Ala Lys Lys Tyr Ile His Tyr Gly Val Gly Pro His Ala Cys Leu Gly
 1075 1080 1085
 Arg Asp Ala Ser Gln Ile Ala Ile Thr Glu Met Phe Arg Cys Leu Phe
 1090 1095 1100
 Arg Arg Arg Asn Val Arg Arg Val Pro Gly Pro Gln Gly Glu Leu Lys
 1105 1110 1115 1120
 Lys Val Pro Arg Pro Gly Gly Phe Tyr Val Tyr Met Arg Glu Asp Trp
 1125 1130 1135
 Gly Gly Leu Phe Pro Phe Pro Val Thr Met Arg Val Met Trp Asp Asp
 1140 1145 1150
 Glu

<210> 7

<211> 530

<212> PRT

<213> *Fusarium oxysporum*

<400> 7

Met Lys Gly Ser Ala Thr Leu Ala Phe Ala Leu Val Gln Phe Ser Ala
 1 5 10 15
 Ala Ser Gln Leu Val Trp Pro Ser Lys Trp Asp Glu Val Glu Asp Leu
 20 25 30
 Leu Tyr Met Gln Gly Gly Phe Asn Lys Arg Gly Phe Ala Asp Ala Leu
 35 40 45
 Arg Thr Cys Glu Phe Gly Ser Asn Val Pro Gly Thr Gln Asn Thr Ala
 50 55 60
 Glu Trp Leu Arg Thr Ala Phe His Asp Ala Ile Thr His Asp Ala Lys
 65 70 75 80
 Ala Gly Thr Gly Gly Leu Asp Ala Ser Ile Tyr Trp Glu Ser Ser Arg
 85 90 95
 Pro Glu Asn Pro Gly Lys Ala Phe Asn Asn Thr Phe Gly Phe Phe Ser
 100 105 110
 Gly Phe His Asn Pro Arg Ala Thr Ala Ser Asp Leu Thr Ala Leu Gly
 115 120 125
 Thr Val Leu Ala Val Gly Ala Cys Asn Gly Pro Arg Ile Pro Phe Arg
 130 135 140
 Ala Gly Arg Ile Asp Ala Tyr Lys Ala Gly Pro Ala Gly Val Pro Glu
 145 150 155 160
 Pro Ser Thr Asn Leu Lys Asp Thr Phe Ala Ala Phe Thr Lys Ala Gly
 165 170 175
 Phe Thr Lys Glu Glu Met Thr Ala Met Val Ala Cys Gly His Ala Ile
 180 185 190

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FIG. 1 - CONTINUED

Gly	Gly	Val	His	Ser	Val	Asp	Phe	Pro	Glu	Ile	Val	Gly	Ile	Lys	Ala
		195					200					205			
Asp	Pro	Asn	Asn	Asp	Thr	Asn	Val	Pro	Phe	Gln	Lys	Asp	Val	Ser	Ser
		210				215					220				
Phe	His	Asn	Gly	Ile	Val	Thr	Glu	Tyr	Leu	Ala	Gly	Thr	Ser	Lys	Asn
225					230					235					240
Pro	Leu	Val	Ala	Ser	Lys	Asn	Ala	Thr	Phe	His	Ser	Asp	Lys	Arg	Ile
				245					250					255	
Phe	Asp	Asn	Asp	Lys	Ala	Thr	Met	Lys	Lys	Leu	Ser	Thr	Lys	Ala	Gly
			260				265						270		
Phe	Asn	Ser	Met	Cys	Ala	Asp	Ile	Leu	Thr	Arg	Met	Ile	Asp	Thr	Val
		275					280					285			
Pro	Lys	Ser	Val	Gln	Leu	Thr	Pro	Val	Leu	Glu	Ala	Tyr	Asp	Val	Arg
		290				295					300				
Pro	Tyr	Ile	Thr	Glu	Leu	Ser	Leu	Asn	Asn	Lys	Asn	Lys	Ile	His	Phe
305					310					315					320
Thr	Gly	Ser	Val	Arg	Val	Arg	Ile	Thr	Asn	Asn	Ile	Arg	Asp	Asn	Asn
				325					330					335	
Asp	Leu	Ala	Ile	Asn	Leu	Ile	Tyr	Val	Gly	Arg	Asp	Gly	Lys	Lys	Val
			340					345					350		
Thr	Val	Pro	Thr	Gln	Gln	Val	Thr	Phe	Gln	Gly	Gly	Thr	Ser	Phe	Gly
		355					360					365			
Ala	Gly	Glu	Val	Phe	Ala	Asn	Phe	Glu	Phe	Asp	Thr	Thr	Met	Asp	Ala
	370					375					380				
Lys	Asn	Gly	Ile	Thr	Lys	Phe	Phe	Ile	Gln	Glu	Val	Lys	Pro	Ser	Thr
385					390					395					400
Lys	Ala	Thr	Val	Thr	His	Asp	Asn	Gln	Lys	Thr	Gly	Gly	Tyr	Lys	Val
				405					410					415	
Asp	Asp	Thr	Val	Leu	Tyr	Gln	Leu	Gln	Gln	Ser	Cys	Ala	Val	Leu	Glu
			420					425					430		
Lys	Leu	Pro	Asn	Ala	Pro	Leu	Val	Val	Thr	Ala	Met	Val	Arg	Asp	Ala
		435					440					445			
Arg	Ala	Lys	Asp	Ala	Leu	Thr	Leu	Arg	Val	Ala	His	Lys	Lys	Pro	Val
	450					455					460				
Lys	Gly	Ser	Ile	Val	Pro	Arg	Phe	Gln	Thr	Ala	Ile	Thr	Asn	Phe	Lys
465					470					475					480
Ala	Thr	Gly	Lys	Lys	Ser	Ser	Gly	Tyr	Thr	Gly	Phe	Gln	Ala	Lys	Thr
				485					490					495	
Met	Phe	Glu	Glu	Gln	Ser	Thr	Tyr	Phe	Asp	Ile	Val	Leu	Gly	Gly	Ser
			500					505					510		
Pro	Ala	Ser	Gly	Val	Gln	Phe	Leu	Thr	Ser	Gln	Ala	Met	Pro	Ser	Gln
		515					520					525			
Cys	Ser														
	530														

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FIG. 1 - CONTINUED

<210> 8

<211> 358

<212> PRT

<213> *Fusarium graminearum*

<400> 8

```

Met Ala Ser Ala Thr Arg Gln Phe Ala Arg Ala Ala Thr Arg Ala Thr
 1           5           10          15
Arg Asn Gly Phe Ala Ile Ala Pro Arg Gln Val Ile Arg Gln Gln Gly
      20           25           30
Arg Arg Tyr Tyr Ser Ser Glu Pro Ala Gln Lys Ser Ser Ser Ala Trp
      35           40           45
Ile Trp Leu Thr Gly Ala Ala Val Ala Gly Gly Ala Gly Tyr Tyr Phe
      50           55           60
Tyr Gly Asn Ser Ala Ser Ser Ala Thr Ala Lys Val Phe Asn Pro Ser
65           70           75           80
Lys Glu Asp Tyr Gln Lys Val Tyr Asn Glu Ile Ala Ala Arg Leu Glu
      85           90           95
Glu Lys Asp Asp Tyr Asp Asp Gly Ser Tyr Gly Pro Val Leu Val Arg
      100          105          110
Leu Ala Trp His Ala Ser Gly Thr Tyr Asp Lys Glu Thr Gly Thr Gly
      115          120          125
Gly Ser Asn Gly Ala Thr Met Arg Phe Ala Pro Glu Ser Asp His Gly
      130          135          140
Ala Asn Ala Gly Leu Ala Ala Ala Arg Asp Phe Leu Gln Pro Val Lys
145          150          155          160
Glu Lys Phe Pro Trp Ile Thr Tyr Ser Asp Leu Trp Ile Leu Ala Gly
      165          170          175
Val Cys Ala Ile Gln Glu Met Leu Gly Pro Ala Ile Pro Tyr Arg Pro
      180          185          190
Gly Arg Ser Asp Arg Asp Val Ser Gly Cys Thr Pro Asp Gly Arg Leu
      195          200          205
Pro Asp Ala Ser Lys Arg Gln Asp His Leu Arg Gly Ile Phe Gly Arg
      210          215          220
Met Gly Phe Asn Asp Gln Glu Ile Val Ala Leu Ser Gly Ala His Ala
225          230          235          240
Leu Gly Arg Cys His Thr Asp Arg Ser Gly Tyr Ser Gly Pro Trp Thr
      245          250          255
Phe Ser Pro Thr Val Leu Thr Asn Asp Tyr Phe Arg Leu Leu Val Glu
      260          265          270
Glu Lys Trp Gln Trp Lys Lys Trp Asn Gly Pro Ala Gln Tyr Glu Asp
      275          280          285
Lys Ser Thr Lys Ser Leu Met Met Leu Pro Ser Asp Ile Ala Leu Ile
      290          295          300
Glu Asp Lys Lys Phe Lys Pro Trp Val Glu Lys Tyr Ala Lys Asp Asn
305          310          315          320

```

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FIG. 1 - CONTINUED

Asp Ala Phe Phe Lys Asp Phe Ser Asn Val Val Leu Arg Leu Phe Glu
 325 330 335
 Leu Gly Val Pro Phe Ala Gln Gly Thr Glu Asn Gln Arg Trp Thr Phe
 340 345 350
 Lys Pro Thr His Gln Glu
 355

<210> 9
 <211> 122
 <212> PRT
 <213> Chlamydomonas eugametos

<400> 9
 Met Ser Leu Phe Ala Lys Leu Gly Gly Arg Glu Ala Val Glu Ala Ala
 1 5 10 15
 Val Asp Lys Phe Tyr Asn Lys Ile Val Ala Asp Pro Thr Val Ser Thr
 20 25 30
 Tyr Phe Ser Asn Thr Asp Met Lys Val Gln Arg Ser Lys Gln Phe Ala
 35 40 45
 Phe Leu Ala Tyr Ala Leu Gly Gly Ala Ser Glu Trp Lys Gly Lys Asp
 50 55 60
 Met Arg Thr Ala His Lys Asp Leu Val Pro His Leu Ser Asp Val His
 65 70 75 80
 Phe Gln Ala Val Ala Arg His Leu Ser Asp Thr Leu Thr Glu Leu Gly
 85 90 95
 Val Pro Pro Glu Asp Ile Thr Asp Ala Met Ala Val Val Ala Ser Thr
 100 105 110
 Arg Thr Glu Val Leu Asn Met Pro Gln Gln
 115 120

<210> 10
 <211> 121
 <212> PRT
 <213> Tetrahymena pyriformis

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

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FIG. 1 - CONTINUED

```

Lys Gly Lys Asn Met Thr Glu Ala His Lys Gly Met Asn Leu Gln Asn
65          70          75          80
Leu His Phe Asp Ala Ile Ile Glu Asn Leu Ala Ala Thr Leu Lys Glu
          85          90          95
Leu Gly Val Thr Asp Ala Val Ile Asn Glu Ala Ala Lys Val Ile Glu
          100         105         110
His Thr Arg Lys Asp Met Leu Gly Lys
          115         120

```

<210> 11
 <211> 117
 <212> PRT
 <213> *Paramecium caudatum*

```

<400> 11
Met Ser Leu Phe Glu Gln Leu Gly Gly Gln Ala Ala Val Gln Ala Val
1          5          10          15
Thr Ala Gln Phe Tyr Ala Asn Ile Gln Ala Asp Ala Thr Val Ala Thr
          20          25          30
Phe Phe Asn Gly Ile Asp Met Pro Asn Gln Thr Asn Lys Thr Ala Ala
          35          40          45
Phe Leu Cys Ala Ala Leu Gly Gly Pro Asn Ala Trp Thr Gly Arg Asn
          50          55          60
Leu Lys Glu Val His Ala Asn Met Gly Val Ser Asn Ala Gln Phe Thr
65          70          75          80
Thr Val Ile Gly His Leu Arg Ser Ala Leu Thr Gly Ala Gly Val Ala
          85          90          95
Ala Ala Leu Val Glu Gln Thr Val Ala Val Ala Glu Thr Val Arg Gly
          100         105         110
Asp Val Val Thr Val
          115

```

<210> 12
 <211> 147
 <212> PRT
 <213> *Aspergillus niger*

```

<400> 12
Met Pro Leu Thr Pro Glu Gln Ile Lys Ile Ile Lys Ala Thr Val Pro
1          5          10          15
Val Leu Gln Glu Tyr Gly Thr Lys Ile Thr Thr Ala Phe Tyr Met Asn
          20          25          30
Met Ser Thr Val His Pro Glu Leu Asn Ala Val Phe Asn Thr Ala Asn
          35          40          45

```

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FIG. 1 - CONTINUED

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

<210> 13

<211> 165

<212> PRT

<213> Zea mays

<400> 13

Met Ala Leu Ala Glu Ala Asp Asp Gly Ala Val Val Phe Gly Glu Glu
 1 5 10 15
 Gln Glu Ala Leu Val Leu Lys Ser Trp Ala Val Met Lys Lys Asp Ala
 20 25 30
 Ala Asn Leu Gly Leu Arg Phe Phe Leu Lys Val Phe Glu Ile Ala Pro
 35 40 45
 Ser Ala Glu Gln Met Phe Ser Phe Leu Arg Asp Ser Asp Val Pro Leu
 50 55 60
 Glu Lys Asn Pro Lys Leu Lys Thr His Ala Met Ser Val Phe Val Met
 65 70 75 80
 Thr Cys Glu Ala Ala Ala Gln Leu Arg Lys Ala Gly Lys Val Thr Val
 85 90 95
 Arg Glu Thr Thr Leu Lys Arg Leu Gly Ala Thr His Leu Arg Tyr Gly
 100 105 110
 Val Ala Asp Gly His Phe Glu Val Thr Gly Phe Ala Leu Leu Glu Thr
 115 120 125
 Ile Lys Glu Ala Leu Pro Ala Asp Met Trp Ser Leu Glu Met Lys Lys
 130 135 140
 Ala Trp Ala Glu Ala Tyr Ser Gln Leu Val Ala Ala Ile Lys Arg Glu
 145 150 155 160
 Met Lys Pro Asp Ala
 165

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FIG. 1 - CONTINUED

<210> 14

<211> 169

<212> PRT

<213> *Oryza sativa* subsp. *japonica*

<400> 14

```

Met Ala Leu Val Glu Gly Asn Asn Gly Val Ser Gly Gly Ala Val Ser
 1           5           10           15
Phe Ser Glu Glu Gln Glu Ala Leu Val Leu Lys Ser Trp Ala Ile Met
          20           25           30
Lys Lys Asp Ser Ala Asn Ile Gly Leu Arg Phe Phe Leu Lys Ile Phe
          35           40           45
Glu Val Ala Pro Ser Ala Ser Gln Met Phe Ser Phe Leu Arg Asn Ser
          50           55           60
Asp Val Pro Leu Glu Lys Asn Pro Lys Leu Lys Thr His Ala Met Ser
65           70           75           80
Val Phe Val Met Thr Cys Glu Ala Ala Ala Gln Leu Arg Lys Ala Gly
          85           90           95
Lys Val Thr Val Arg Asp Thr Thr Leu Lys Arg Leu Gly Ala Thr His
          100          105          110
Phe Lys Tyr Gly Val Gly Asp Ala His Phe Glu Val Thr Arg Phe Ala
          115          120          125
Leu Leu Glu Thr Ile Lys Glu Ala Val Pro Val Asp Met Trp Ser Pro
          130          135          140
Ala Met Lys Ser Ala Trp Ser Glu Ala Tyr Asn Gln Leu Val Ala Ala
145          150          155          160
Ile Lys Gln Glu Met Lys Pro Ala Glu
          165

```

<210> 15

<211> 160

<212> PRT

<213> *Arabidopsis thaliana*

<400> 15

```

Met Glu Ser Glu Gly Lys Ile Val Phe Thr Glu Glu Gln Glu Ala Leu
 1           5           10           15
Val Val Lys Ser Trp Ser Val Met Lys Lys Asn Ser Ala Glu Leu Gly
          20           25           30
Leu Lys Leu Phe Ile Lys Ile Phe Glu Ile Ala Pro Thr Thr Lys Lys
          35           40           45
Met Phe Ser Phe Leu Arg Asp Ser Pro Ile Pro Ala Glu Gln Asn Pro
          50           55           60
Lys Leu Lys Pro His Ala Met Ser Val Phe Val Met Cys Cys Glu Ser
65           70           75           80

```

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FIG. 1 - CONTINUED

Ala	Val	Gln	Leu	Arg	Lys	Thr	Gly	Lys	Val	Thr	Val	Arg	Glu	Thr	Thr
				85					90					95	
Leu	Lys	Arg	Leu	Gly	Ala	Ser	His	Ser	Lys	Tyr	Gly	Val	Val	Asp	Glu
			100						105					110	
His	Phe	Glu	Val	Ala	Lys	Tyr	Ala	Leu	Leu	Glu	Thr	Ile	Lys	Glu	Ala
		115					120						125		
Val	Pro	Glu	Met	Trp	Ser	Pro	Glu	Met	Lys	Val	Ala	Trp	Gly	Gln	Ala
		130					135					140			
Tyr	Asp	His	Leu	Val	Ala	Ala	Ile	Lys	Ala	Glu	Met	Asn	Leu	Ser	Asn
145						150				155					160

<210> 16

<211> 147

<212> PRT

<213> Pisum sativum

<400> 16

Met	Gly	Phe	Thr	Asp	Lys	Gln	Glu	Ala	Leu	Val	Asn	Ser	Ser	Trp	Glu
1				5					10					15	
Ser	Phe	Lys	Gln	Asn	Leu	Ser	Gly	Asn	Ser	Ile	Leu	Phe	Tyr	Thr	Ile
			20					25					30		
Ile	Leu	Glu	Lys	Ala	Pro	Ala	Ala	Lys	Gly	Leu	Phe	Ser	Phe	Leu	Lys
		35					40					45			
Asp	Thr	Ala	Gly	Val	Glu	Asp	Ser	Pro	Lys	Leu	Gln	Ala	His	Ala	Glu
	50					55					60				
Gln	Val	Phe	Gly	Leu	Val	Arg	Asp	Ser	Ala	Ala	Gln	Leu	Arg	Thr	Lys
65					70					75					80
Gly	Glu	Val	Val	Leu	Gly	Asn	Ala	Thr	Leu	Gly	Ala	Ile	His	Val	Gln
			85						90				95		
Arg	Gly	Val	Thr	Asp	Pro	His	Phe	Val	Val	Val	Lys	Glu	Ala	Leu	Leu
			100						105				110		
Gln	Thr	Ile	Lys	Lys	Ala	Ser	Gly	Asn	Asn	Trp	Ser	Glu	Glu	Leu	Asn
		115					120					125			
Thr	Ala	Trp	Glu	Val	Ala	Tyr	Asp	Gly	Leu	Ala	Thr	Ala	Ile	Lys	Lys
	130						135				140				
Ala	Met	Thr													
145															

<210> 17

<211> 145

<212> PRT

<213> Vigna unguiculata

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FIG. 1 - CONTINUED

<400> 17

```

Met Val Ala Phe Ser Asp Lys Gln Glu Ala Leu Val Asn Gly Ala Tyr
 1          5          10          15
Glu Ala Phe Lys Ala Asn Ile Pro Lys Tyr Ser Val Val Phe Tyr Thr
      20          25          30
Thr Ile Leu Glu Lys Ala Pro Ala Ala Lys Asn Leu Phe Ser Phe Leu
    35          40          45
Ala Asn Gly Val Asp Ala Thr Asn Pro Lys Leu Thr Gly His Ala Glu
    50          55          60
Lys Leu Phe Gly Leu Val Arg Asp Ser Ala Ala Gln Leu Arg Ala Ser
65          70          75          80
Gly Gly Val Val Ala Asp Ala Ala Leu Gly Ala Val His Ser Gln Lys
      85          90          95
Ala Val Asn Asp Ala Gln Phe Val Val Lys Glu Ala Leu Val Lys
    100          105          110
Thr Leu Lys Glu Ala Val Gly Asp Lys Trp Ser Asp Glu Leu Gly Thr
    115          120          125
Ala Val Glu Leu Ala Tyr Asp Glu Leu Ala Ala Ala Ile Lys Lys Ala
    130          135          140
Tyr
145

```

<210> 18

<211> 154

<212> FRT

<213> Bos taurus

<400> 18

```

Met Gly Leu Ser Asp Gly Glu Trp Gln Leu Val Leu Asn Ala Trp Gly
 1          5          10          15
Lys Val Glu Ala Asp Val Ala Gly His Gly Gln Glu Val Leu Ile Arg
      20          25          30
Leu Phe Thr Gly His Pro Glu Thr Leu Glu Lys Phe Asp Lys Phe Lys
    35          40          45
His Leu Lys Thr Glu Ala Glu Met Lys Ala Ser Glu Asp Leu Lys Lys
    50          55          60
His Gly Asn Thr Val Leu Thr Ala Leu Gly Gly Ile Leu Lys Lys Lys
65          70          75          80
Gly His His Glu Ala Glu Val Lys His Leu Ala Glu Ser His Ala Asn
      85          90          95
Lys His Lys Ile Pro Val Lys Tyr Leu Glu Phe Ile Ser Asp Ala Ile
    100          105          110
Ile His Val Leu His Ala Lys His Pro Ser Asp Phe Gly Ala Asp Ala
    115          120          125
Gln Ala Ala Met Ser Lys Ala Leu Glu Leu Phe Arg Asn Asp Met Ala
    130          135          140

```

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FIG. 1 - CONTINUED

Ala Gln Tyr Lys Val Leu Gly Phe His Gly
 145 150

<210> 19
 <211> 154
 <212> PRT
 <213> Sus scrofa

<400> 19
 Met Gly Leu Ser Asp Gly Glu Trp Gln Leu Val Leu Asn Val Trp Gly
 1 5 10 15
 Lys Val Glu Ala Asp Val Ala Gly His Gly Gln Glu Val Leu Ile Arg
 20 25 30
 Leu Phe Lys Gly His Pro Glu Thr Leu Glu Lys Phe Asp Lys Phe Lys
 35 40 45
 His Leu Lys Ser Glu Asp Glu Met Lys Ala Ser Glu Asp Leu Lys Lys
 50 55 60
 His Gly Asn Thr Val Leu Thr Ala Leu Gly Gly Ile Leu Lys Lys Lys
 65 70 75 80
 Gly His His Glu Ala Glu Leu Thr Pro Leu Ala Gln Ser His Ala Thr
 85 90 95
 Lys His Lys Ile Pro Val Lys Tyr Leu Glu Phe Ile Ser Glu Ala Ile
 100 105 110
 Ile Gln Val Leu Gln Ser Lys His Pro Gly Asp Phe Gly Ala Asp Ala
 115 120 125
 Gln Gly Ala Met Ser Lys Ala Leu Glu Leu Phe Arg Asn Asp Met Ala
 130 135 140
 Ala Lys Tyr Lys Glu Leu Gly Phe Gln Gly
 145 150

<210> 20
 <211> 154
 <212> PRT
 <213> Equus caballus

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

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FIG. 1 - CONTINUED

```

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

```

<210> 21
 <211> 152
 <212> PRT
 <213> *Nicotiana benthamiana*

```

<400> 21
Met Ser Ser Phe Thr Glu Glu Gln Glu Ala Leu Val Val Lys Ser Trp
1      5      10      15
Asp Ser Met Lys Lys Asn Ala Gly Glu Trp Gly Leu Lys Leu Phe Leu
      20      25      30
Lys Ile Phe Glu Ile Ala Pro Ser Ala Lys Lys Leu Phe Ser Phe Leu
      35      40      45
Lys Asp Ser Asn Val Pro Leu Glu Gln Asn Ala Lys Leu Lys Pro His
      50      55      60
Ser Lys Ser Val Phe Val Met Thr Cys Glu Ala Ala Val Gln Leu Arg
65      70      75      80
Lys Ala Gly Lys Val Val Val Arg Asp Ser Thr Leu Lys Lys Leu Gly
      85      90      95
Ala Thr His Phe Lys Tyr Gly Val Ala Asp Glu His Phe Glu Val Thr
      100     105     110
Lys Phe Ala Leu Leu Glu Thr Ile Lys Glu Ala Val Pro Glu Met Trp
      115     120     125
Ser Val Asp Met Lys Asn Ala Trp Gly Glu Ala Phe Asp Gln Leu Val
      130     135     140
Asn Ala Ile Lys Thr Glu Met Lys
145                               150

```

<210> 22
 <211> 132
 <212> PRT
 <213> *Bacillus subtilis*

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FIG. 1 - CONTINUED

<400> 22

```

Met Gly Gln Ser Phe Asn Ala Pro Tyr Glu Ala Ile Gly Glu Glu Leu
 1          5          10          15
Leu Ser Gln Leu Val Asp Thr Phe Tyr Glu Arg Val Ala Ser His Pro
      20          25          30
Leu Leu Lys Pro Ile Phe Pro Ser Asp Leu Thr Glu Thr Ala Arg Lys
      35          40          45
Gln Lys Gln Phe Leu Thr Gln Tyr Leu Gly Gly Pro Pro Leu Tyr Thr
      50          55          60
Glu Glu His Gly His Pro Met Leu Arg Ala Arg His Leu Pro Phe Pro
65          70          75          80
Ile Thr Asn Glu Arg Ala Asp Ala Trp Leu Ser Cys Met Lys Asp Ala
      85          90          95
Met Asp His Val Gly Leu Glu Gly Glu Ile Arg Glu Phe Leu Phe Gly
      100          105          110
Arg Leu Glu Leu Thr Ala Arg His Met Val Asn Gln Thr Glu Ala Glu
      115          120          125
Asp Arg Ser Ser
      130

```

<210> 23

<211> 131

<212> PRT

<213> *Corynebacterium glutamicum*

<400> 23

```

Met Thr Thr Ser Glu Asn Phe Tyr Asp Ser Val Gly Gly Glu Glu Thr
 1          5          10          15
Phe Ser Leu Ile Val His Arg Phe Tyr Glu Gln Val Pro Asn Asp Asp
      20          25          30
Ile Leu Gly Pro Met Tyr Pro Pro Asp Asp Phe Glu Gly Ala Glu Gln
      35          40          45
Arg Leu Lys Met Phe Leu Ser Gln Tyr Trp Gly Gly Pro Lys Asp Tyr
      50          55          60
Gln Glu Gln Arg Gly His Pro Arg Leu Arg Met Arg His Val Asn Tyr
65          70          75          80
Pro Ile Gly Val Thr Ala Ala Glu Arg Trp Leu Gln Leu Met Ser Asn
      85          90          95
Ala Leu Asp Gly Val Asp Leu Thr Ala Glu Gln Arg Glu Ala Ile Trp
      100          105          110
Glu His Met Val Arg Ala Ala Asp Met Leu Ile Asn Ser Asn Pro Asp
      115          120          125
Pro His Ala
      130

```

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FIG. 1 - CONTINUED

<210> 24

<211> 124

<212> PRT

<213> Synechocystis sp.

<400> 24

```

Met Ser Thr Leu Tyr Glu Lys Leu Gly Gly Thr Thr Ala Val Asp Leu
 1           5           10           15
Ala Val Asp Lys Phe Tyr Glu Arg Val Leu Gln Asp Asp Arg Ile Lys
           20           25           30
His Phe Phe Ala Asp Val Asp Met Ala Lys Gln Arg Ala His Gln Lys
           35           40           45
Ala Phe Leu Thr Tyr Ala Phe Gly Gly Thr Asp Lys Tyr Asp Gly Arg
 50           55           60
Tyr Met Arg Glu Ala His Lys Glu Leu Val Glu Asn His Gly Leu Asn
65           70           75           80
Gly Glu His Phe Asp Ala Val Ala Glu Asp Leu Leu Ala Thr Leu Lys
           85           90           95
Glu Met Gly Val Pro Glu Asp Leu Ile Ala Glu Val Ala Ala Val Ala
           100           105           110
Gly Ala Pro Ala His Lys Arg Asp Val Leu Asn Gln
           115           120

```

<210> 25

<211> 183

<212> PRT

<213> Synechococcus sp.

<400> 25

```

Met Asp Val Ala Leu Leu Glu Lys Ser Phe Glu Gln Ile Ser Pro Arg
 1           5           10           15
Ala Ile Glu Phe Ser Ala Ser Phe Tyr Gln Asn Leu Phe His His His
           20           25           30
Pro Glu Leu Lys Pro Leu Phe Ala Glu Thr Ser Gln Thr Ile Gln Glu
           35           40           45
Lys Lys Leu Ile Phe Ser Leu Ala Ala Ile Ile Glu Asn Leu Arg Asn
 50           55           60
Pro Asp Ile Leu Gln Pro Ala Leu Lys Ser Leu Gly Ala Arg His Ala
65           70           75           80
Glu Val Gly Thr Ile Lys Ser His Tyr Pro Leu Val Gly Gln Ala Leu
           85           90           95
Ile Glu Thr Phe Ala Glu Tyr Leu Ala Ala Asp Trp Thr Glu Gln Leu
           100           105           110
Ala Thr Ala Trp Val Glu Ala Tyr Asp Val Ile Ala Ser Thr Met Ile
           115           120           125

```

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FIG. 1 - CONTINUED

Glu Gly Ala Asp Asn Pro Ala Ala Tyr Leu Glu Pro Glu Leu Thr Phe
 130 135 140
 Tyr Glu Trp Leu Asp Leu Tyr Gly Glu Glu Ser Pro Lys Val Arg Asn
 145 150 155 160
 Ala Ile Ala Thr Leu Thr His Phe His Tyr Gly Glu Asp Pro Gln Asp
 165 170 175
 Val Gln Arg Asp Ser Arg Gly
 180

<210> 26
 <211> 118
 <212> PRT
 <213> Nostoc commune

<400> 26
 Met Ser Thr Leu Tyr Asp Asn Ile Gly Gly Gln Pro Ala Ile Glu Gln
 1 5 10 15
 Val Val Asp Glu Leu His Lys Arg Ile Ala Thr Asp Ser Leu Leu Ala
 20 25 30
 Pro Val Phe Ala Gly Thr Asp Met Val Lys Gln Arg Asn His Leu Val
 35 40 45
 Ala Phe Leu Ala Gln Ile Phe Glu Gly Pro Lys Gln Tyr Gly Gly Arg
 50 55 60
 Pro Met Asp Lys Thr His Ala Gly Leu Asn Leu Gln Gln Pro His Phe
 65 70 75 80
 Asp Ala Ile Ala Lys His Leu Gly Glu Arg Met Ala Val Arg Gly Val
 85 90 95
 Ser Ala Glu Asn Thr Lys Ala Ala Leu Asp Arg Val Thr Asn Met Lys
 100 105 110
 Gly Ala Ile Leu Asn Lys
 115

<210> 27
 <211> 136
 <212> PRT
 <213> Bacillus megaterium

<400> 27
 Met Arg Glu Lys Ile His Ser Pro Tyr Glu Leu Leu Gly Gly Glu His
 1 5 10 15
 Thr Ile Ser Lys Leu Val Asp Ala Phe Tyr Thr Arg Val Gly Gln His
 20 25 30
 Pro Glu Leu Ala Pro Ile Phe Pro Asp Asn Leu Thr Glu Thr Ala Arg
 35 40 45

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FIG. 1 - CONTINUED

Lys	Gln	Lys	Gln	Phe	Leu	Thr	Gln	Tyr	Leu	Gly	Gly	Pro	Ser	Leu	Tyr
50						55				60					
Thr	Glu	Glu	His	Gly	His	Pro	Met	Leu	Arg	Ala	Arg	His	Leu	Pro	Phe
65					70					75					80
Glu	Ile	Thr	Pro	Ser	Arg	Ala	Lys	Ala	Trp	Leu	Thr	Cys	Met	His	Glu
				85					90					95	
Ala	Met	Asp	Glu	Ile	Asn	Leu	Glu	Gly	Pro	Glu	Arg	Asp	Glu	Leu	Tyr
			100					105					110		
His	Arg	Leu	Ile	Leu	Thr	Ala	Gln	His	Met	Ile	Asn	Ser	Pro	Glu	Gln
		115					120					125			
Thr	Asp	Glu	Lys	Gly	Phe	Ser	His								
130						135									

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FIG. 2

SEQ ID NO. 28: Wild-type pAOX1

```

1 AACATCCAAA GACGAAAGGT TGAATGAAAC CTTTTTGCCA TCCGACATCC ACAGGTCCAT
61 TCTCACACAT AAGTGCCAAA CGCAACAGGA GGGGATACAC TAGCAGCAGA CCGTTGCAAA
121 CGCAGGACCT CCACTCCTCT TCTCCTCAAC ACCCACTTTT GCCATCGAAA AACCAGCCCA
181 GTTATTGGGC TTGATTGGAG CTCGCTCATT CCAATTCCTT CTATTAGGCT ACTAACACCA
241 TGACTTTATT AGCCTGTCTA TCCTGGCCCC CCTGGCGAGG TTCATGTTTG TTTATTTCCG
301 AATGCAACAA GCTCCGCATT ACACCCGAAC ATCACTCCAG ATGAGGGCTT TCTGAGTGTG
361 GGGTCAAATA GTTTCATGTT CCCCAAATGG CCCCCAACTG ACAGTTTAAA CGCTGTCCTG
421 GAACCTAATA TGACAAAAGC GTGATCTCAT CCAAGATGAA CTAAGTTTGG TTCGTTGAAA
481 TGCTAACGGC CAGTTGGTCA AAAAGAAACT TCCAAAAGTC GGCATACCGT TTGCTCTGTT
541 TGGTATTGAT TGACGAATGC TCAAAAATAA TCTCATTAAT GCTTAGCGCA GTCTCTCTAT
601 CGCTTCTGAA CCCCGTGCA CCTGTGCCGA AACGCAAATG GGGAAACACC CGCTTTTGG
661 ATGATTATGC ATTGTCTCCA CATTTGTATGC TTCCAAGATT CTGGTGGGAA TACTGCTGAT
721 AGCCTAACGT TCATGATCAA AATTAACTG TTCTAACCCC TACTTGACAG CAATATATAA
781 ACAGAAGGAA GCTGCCCTGT CTTAAACCTT TTTTTTTATC ATCATTATTA GCTTACTTTC
841 ATAATTGCGA CTGGTTCCAA TTGACAAGCT TTTGATTTTA ACGACTTTTA ACGACAACCTT
901 GAGAAGATCA AAAAACAACT AATTATTCGA AAC

```

SEQ ID NO. 29: Mutant pAOX1

```

1 AACATCCAAA GACGAAAGGT TGAATGAAAC CTTTTTGCCA TCCGACATCC ACAGGTCCAT
61 TCTCACACAT AAGTGCCAAA CGCAACAGGA GGGGATACAC TAGCAGCAGA CCGTTGCAAA
121 CGCAGGACCT CCACTCCTCT TCTCCCCAAC ACCTACTTTT GCCATCGAAA AACCAGCCCA
181 GTTATTGGGC TTGATTGGAG CTCGCTCATT CCAATTCCTT CTATTAGGCT ACTAACACCA
241 TGACTTTATT AGCCTGTCTA TCCTGGCCCC CCTGGCGAGG TTCATGTTTG TTTATTTCCG
301 AACGCAACAA GCTCCGCATT ACACCCGAAC ATCACTCCAG ATGAGGGCTT TCTGAGTGTG
361 GGGTCAAATA GTTTCATGTT CCCCAAATGG CCCCCAACTG ACAGTTTAAA CGCTGTCCTG
421 GAACCAAAATA TGTCGAAAGC GTGATCTCAT CCAAGATGAA CTAAGTTTGG TTCGTTGAAA
481 TGCTAACGGC CAGTTGGTCA AAAAGAAACT TCCAAAAGTC GGCATACCGA TTGCTCTGTT
541 TGGTATTGAT TGACGAATGC TCAAAAATAA TTTTCATTAAT GCTTAGCGCA GTCTCCCTAT
601 CGCTTCTGAA CCCCGGCGCA CCTGTGCCGA AACGCAAATG GGGAAACACC CGCTTTTGG
661 ATGATTATGC ATTGTCTCCA CATTTGTACGC TTCCATGATT CCGGTGGGGA TCGCGCTGAT
721 AGCCTAACGT TCATGATCAA AATTAACTG TTCTAACCCC TACTTGACAG CAATATATAA
781 ACAGAAGGAG GCTGCCCTGT CTTAAACCTT TTTTTTTATC ATCATTATTA GCTTACTTTC
841 TTAATTGCGA CTGGTTCCAA TAGACAAGCT TTTGATTTTA ACGACTTTTA ACGACAACCTT
901 GAGAAGATCA AAAAACAACT AATTATTCGA AAC

```

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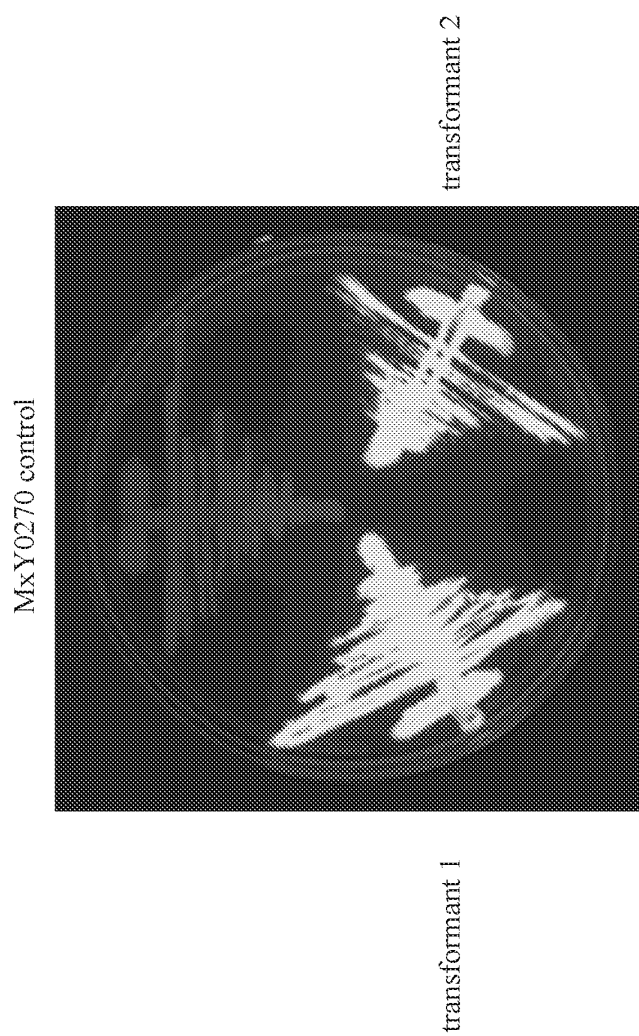


Figure 3

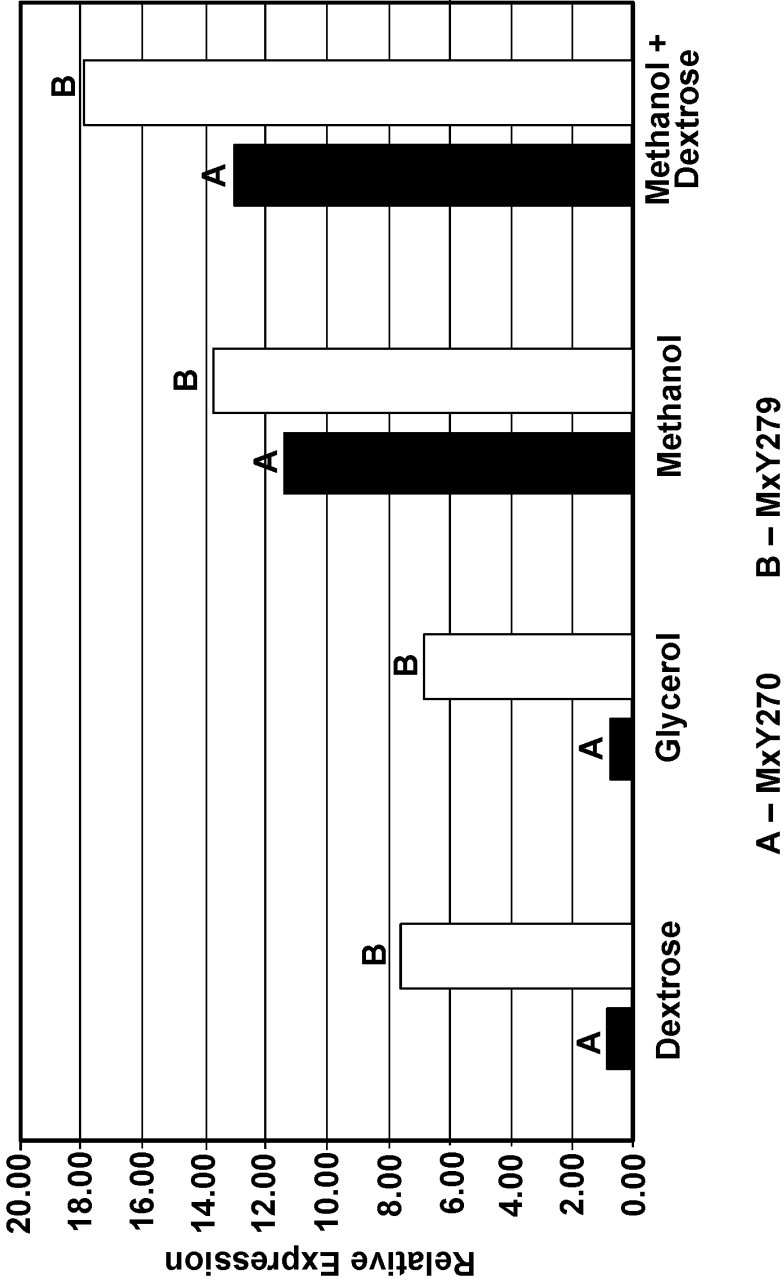


Figure 4

Original Sequence			
▶ pAOX1 MxG0038			TCCACATTGTATGCTTCCAAGATTCTGGTGGGAATACTGCTGA
▶ MxG0220 (t588c_2596t...			TCCACATTGTATGGCTTCCAATGATTCCGGTGGGATGCCGGCTGA
			TCCACATTGTATGGCTTCCAATGATTCCGGTGGGAATGCCGGCTGA

Figure 5

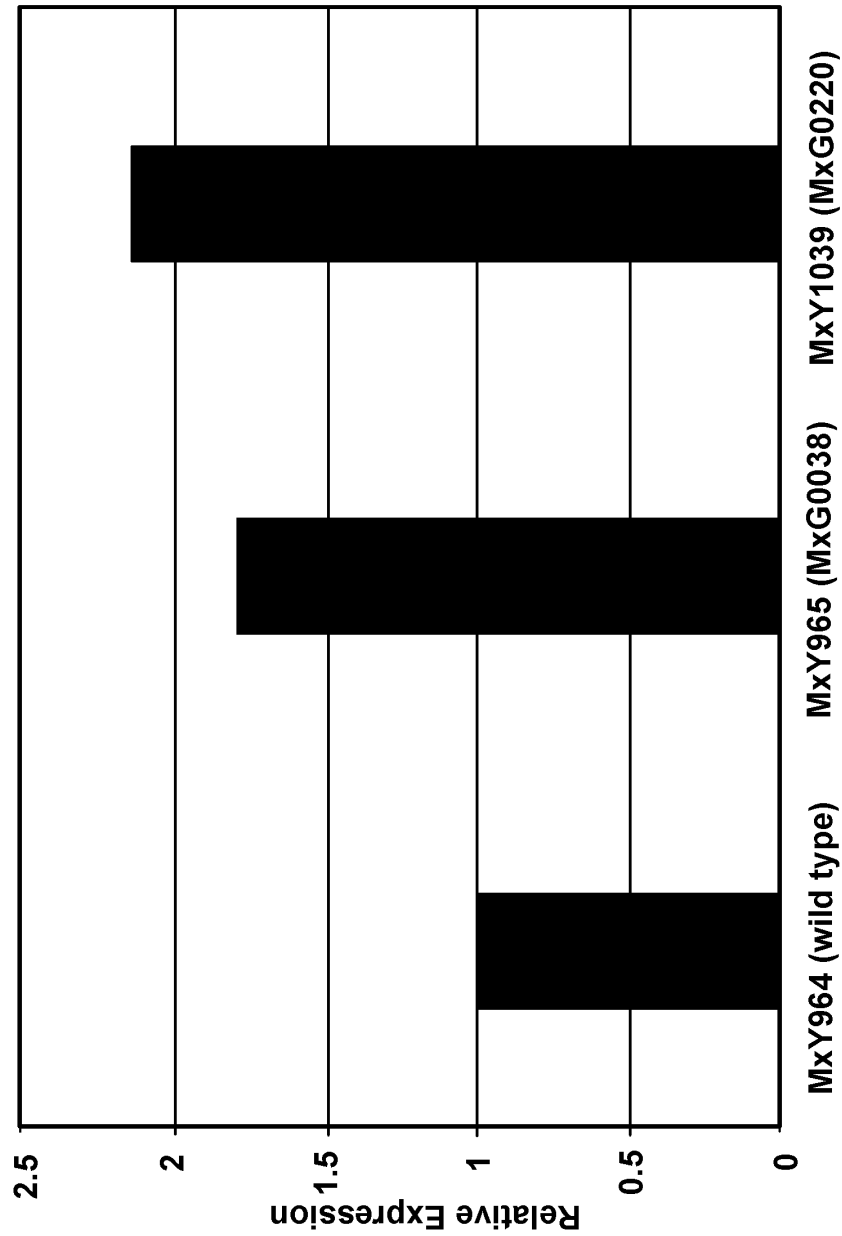


Figure 6

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FIG. 7

SEQ ID NO: 30

GAGGGTCTCGGATGACAGCTTTAACTGAAGGGGCC

SEQ ID NO: 31

GAGGGTCTCGATTATTGGTAAGTGTCGAGATCAACTGCC

SEQ ID NO: 32

GTGCTAGGATCCAACATCCAAAGACG

SEQ ID NO: 33

TTTTCTAGAACCTTATCAAGATAGCTAGAAATAGAAATGGTTGC

SEQ ID NO: 34

TCCTGCAGCCCGGGGATCCAACATCCAAAGA

SEQ ID NO: 35

CTTCAGTTAAAGCTGTCATCGTTTCGAATAATTAGT

SEQ ID NO: 36

AACAACTAATTATTCGAAACGATGACAGCTTTAACT

SEQ ID NO: 37

ACCTTTCGTCTTTGGATGTTGGATCCCCCGGG