

PCTEP2008056586  
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SEQUENCE LISTING

<110> GENIMUNE N. V.

PHARMEXA Inc.

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<130> 200 PCT

<150> EP07110056.4

<151> 2007-06-12

<150> US 60/924,778

<151> 2007-05-31

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<170> Patent In version 3.1

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 Ala Thr Thr Pro Ile Ile His Leu Lys Asn Ala Ala Ala Arg Glu Met  
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Phoeni xTemp64308. t mp. t xt

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 Gly Pro Gly Ile Arg Ile Leu Gln Glu Leu Leu Met Gly Ser Phe Gly  
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 Arg Pro Arg Thr Glu Thr Gly Pro Gly Pro Gly Trp Lys His Ile Arg  
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 His Lys Ala Ile Glu Leu Gly Pro Gly Pro Gly Leu Arg Thr Leu Gln  
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 Gln Leu Phe Leu Ser Thr Leu Ser Phe Val Gly Pro Gly Pro Gly Phe  
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 His Ser Ile Ala Gly Gln Tyr Arg Gly Gln Cys Asn Thr Cys Gly Pro  
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 Asn Pro Thr Val Ala Glu Gly Phe Gly Pro Gly Pro Gly Pro Arg Lys  
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 Leu His Glu Leu Ser Ser Ala Leu Glu Ile Pro Tyr Gly Pro Gly Pro  
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Gly Phe Lys Thr Leu Ile Lys Pro Ala Thr Leu Tyr Ala His Ile Gln  
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Gly Pro Gly Pro Gly Thr Ile Pro Asn Ser Val Gln Ile Ser Val Gly  
820 825 830

Tyr Met Thr Ile Gly Pro Gly Pro Gly Asn Gly Trp Phe Tyr Val Glu  
835 840 845

Ala Val Ile Asp Arg Gln Thr Gly Gly Pro Gly Pro Gly Val Leu Asp  
850 855 860

Phe Ala Phe Thr Asp Leu Thr Ile Val Tyr Arg Asp Gly Pro Gly Pro  
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<211> 2685

<212> DNA

<213> artificial

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Phoeni xTemp64308. t mp. t xt

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<211> 894

<212> PRT

<213> artificial

<400> 125

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 Pro Phe Pro Phe Asn Tyr Thr Asn Trp Lys Phe Ile Tyr Leu Asn Ala  
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 His Tyr Lys Arg Asn Ala Val Tyr Gly Thr Thr Leu Glu Lys Leu Lys  
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 Val Val Phe Ile Tyr Ile Pro Leu Phe Gly Ala Ala Lys Leu Leu Glu  
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 145 150 155 160  
 His Ser Arg Leu Val Val Phe Gly Ala Ala Ala Leu Thr Asp Val Ser  
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 Ile Ala Cys Val Tyr Asn Ala His Tyr Thr Asn Trp Lys Phe Ile Phe  
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 Gly Ala Ala Phe Ile Tyr Ile Pro Leu Phe Val Ile Lys Ala Ala Ala  
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 Met Val Met Leu Met Leu Val Arg Phe Lys Asn Ala Ala Asn Thr Glu  
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275

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Leu	Cys	Phe	Ser	Val	Cys	Leu	Asn	Ala	Ala	Tyr	Gln	Phe	Ala	Phe	Lys
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Val	Ser	Glu	Phe	Arg	Trp	Tyr	Arg	Tyr	Lys	Ala	Ala	Glu	Leu	Asp	Pro
		515					520					525			
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	530					535					540				
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Ile Val Leu His Leu 565 Gu Pro G n Asn Gu 570 Leu Asp Pro Val Gly Pro  
 Gly Pro Gly Ile 580 Arg Ile Leu G n Gu 585 Leu Leu Met Gly Ser 590 Phe Gly  
 Ile Val Gly 595 Pro Gly Pro Gly Thr 600 Gly Arg Cys Ile Ala Cys Trp Arg  
 Arg Pro 610 Arg Thr Gu Thr Gly 615 Pro Gly Pro Gly Trp Lys His Ile Arg  
 Leu Gu 625 Cys Val Leu Met 630 Tyr Lys Ala Arg Gly 635 Pro Gly Pro Gly Leu 640  
 Cys Ile Val Tyr Arg 645 Asp Cys Ile Ala Tyr 650 Ala Ala Cys His Gly 655 Pro  
 Gly Pro Gly Pro 660 Gu Trp Ile Gu Arg 665 G n Thr Val Leu G n His Ser 670  
 Phe Asn Gly 675 Pro Gly Pro Gly Pro Ile Asn Ile Ser Lys Ser Lys Ala 685  
 His Lys 690 Ala Ile Gu Leu Gly 695 Pro Gly Pro Gly Leu Arg Thr Leu G n 700  
 G n Leu Phe Leu Ser Thr 710 Leu Ser Phe Val Gly 715 Pro Gly Pro Gly Phe 720  
 His Ser Ile Ala Gly 725 G n Tyr Arg Gly G n Cys Asn Thr Cys Gly 735 Pro  
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Phoeni xTemp64308. t mp. t xt

Tyr Met Thr Ile Gly Pro Gly Pro Gly Asn Gly Trp Phe Tyr Val Glu  
835 840 845

Ala Val Ile Asp Arg Gln Thr Gly Gly Pro Gly Pro Gly Val Leu Asp  
850 855 860

Phe Ala Phe Thr Asp Leu Thr Ile Val Tyr Arg Asp Gly Pro Gly Pro  
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<210> 126

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Phoeni xTemp64308. t mp. t xt

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Val	Tyr	Tyr	Met	Lys	Ser	Thr	Asp	Leu	Arg	Asp	His	Ile	Asp	Tyr	Asn
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Ile	Ser	Asp	Tyr	Arg	His	Tyr	Oys	Tyr	Lys	Ala	Ala	Gln	Val	Val	Pro
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Ala	Tyr	Asn	Ile	Ser	Lys	Asn	Gly	Tyr	Asn	Thr	Phe	Tyr	Ile	Glu	Phe
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Lys	Leu	Gln	Asp	Lys	Ile	Ile	Asp	His	Tyr	Lys	Ala	Ala	Oys	Leu	Tyr
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Leu	His	Ile	Gln	Ser	Leu	Asn	Ala	Ala	Ala	Ala	Thr	Leu	Gln	Asp	Ile
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Val	Leu	His	Gly	Thr	Val	Tyr	Val	Phe	Oys	Phe	Leu	Leu	Asn	Ala	Ile
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Leu	Tyr	Ala	His	Ile	Gln	Oys	Leu	Asn	Ala	Ala	Leu	Tyr	Asn	Leu	Leu
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Ile	Arg	Oys	Phe	Lys	Ala	Ala	Phe	Val	Tyr	Ile	Pro	Leu	Phe	Leu	Ile
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Asn	Thr	Val	Ser	Ala	Thr	Gln	Leu	Val	Lys	Asn	Gly	Thr	Gly	Oys	Asn
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Ile	Leu	Glu	Oys	Val	Lys	Ala	Ala	Ala	Leu	Tyr	Gly	Val	Ser	Phe	Ser
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 Phe Gly Met Ser Phe Ile His Phe Lys Ala Ala Lys Leu Leu Ser Lys  
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 Leu Leu Cys Val Asn Ala Ala Ala Ala Thr Met Cys Arg His Tyr Lys  
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 Ala Leu Ser Gln Met Val Gln Trp Ala Tyr Lys Leu Thr Asn Thr Gly  
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 Leu Tyr Asn Val Asn Ala Ala Ala Thr Cys Val Ser His Arg Gly Leu  
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 Tyr Asn Ala Ala Lys Ser Ala Ile Val Thr Leu Thr Tyr Lys Ala Ala  
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 Ala Asp Ser Val Tyr Gly Asp Thr Leu Glu Arg Asn Met Tyr Val Cys  
 420 425 430  
 Cys His Val Pro Leu Asn Ala Ala Arg Phe His Asn Ile Arg Gly Arg  
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 Phe Lys Ala Ala Phe Val Val Tyr Arg Asp Ser Ile Pro Lys Asn Ala  
 450 455 460  
 Ser Leu Gln Asp Ile Glu Ile Thr Cys Val Lys Ala Val Tyr Asp Phe  
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 Ala Phe Arg Asp Leu Cys Ile Lys Tyr Met Leu Asp Leu Gln Pro Glu  
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 Thr Val Asn Ala Ala Ala Gly Thr Leu Gly Ile Val Cys Pro Val Asn  
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 Ser Val Ile Cys Phe Val Asn Ser Lys Asn Ala Thr Leu Glu Lys Leu  
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 Ile Arg Thr Tyr Phe Val Gln Gly Pro Gly Pro Gly Phe Leu Asn Thr  
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 Val Ala Ile Pro Asp Ser Val Gln Ile Leu Val Gly Pro Gly Pro Gly  
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 Gln Arg Phe His Asn Ile Arg Gly Arg Trp Thr Gly Arg Cys Met Gly

580

585

590

Pro Gly Pro Gly Thr Asn Thr Gly Leu Tyr Asn Leu Leu Ile Arg Cys  
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Gly Ala Leu Lys Ser Phe Leu Lys Gly Pro Gly Pro Gly Pro Glu Trp  
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Ile Gln Arg Gln Thr Val Leu Gln His Ser Phe Asn Gly Pro Gly Pro  
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Gly Leu Phe Val Val Tyr Arg Asp Ser Ile Pro His Ala Ala Cys His  
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Thr Leu Gly Ile Val Gly Pro Gly Pro Gly Leu Asp Leu Gln Pro Glu  
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Thr Thr Asp Leu Tyr Cys Tyr Glu Gln Gly Pro Gly Pro Gly Leu Gln  
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Ala Ile Glu Leu Gln Leu Thr Leu Glu Thr Ile Tyr Asn Gly Pro Gly  
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Pro Gly Phe Gln Gln Leu Phe Leu Asn Thr Leu Ser Phe Val Cys Pro  
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Trp Gly Pro Gly Pro Gly Trp Lys His Met Arg Leu Glu Cys Ala Ile  
755 760 765

Tyr Tyr Lys Ala Arg Gly Pro Gly Pro Gly Leu Cys Thr Glu Leu Gln  
770 775 780

Thr Thr Ile His Asp Ile Ile Leu Glu Gly Pro Gly Pro Gly Phe Lys  
785 790 795 800

Thr Leu Ile Gln Pro Phe Ile Leu Tyr Ala His Ile Gln Gly Pro Gly  
805 810 815

Pro Gly Leu Tyr Trp Tyr Lys Thr Gly Ile Ser Asn Ile Ser Glu Val  
820 825 830

Tyr Gly Pro Gly Pro Gly Glu Val Phe Glu Phe Ala Phe Lys Asp Leu  
835 840 845

Phe Val Val Tyr Arg Gly Pro Gly Pro Gly His Lys Ala Ile Glu Leu  
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PhoenixTemp64308. tmp. txt

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Met Leu Met Leu Val Arg Phe Lys Asn Ala Ala Leu Gln Asp Lys Ile  
50 55 60

Leu Asp His Tyr Lys Ala Ala Phe Leu Leu Cys Phe Cys Val Leu Leu  
65 70 75 80

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85 90 95

Arg Tyr Pro Leu Leu Arg Asn Ala Thr Leu Gln Glu Ile Val Leu His  
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 Cys Ile Ala Tyr Ala Ala Cys His Gly Pro Gly Pro Gly Pro Glu Trp  
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 Ile Glu Arg Gln Thr Val Leu Gln His Ser Phe Asn Gly Pro Gly Pro  
 645 650 655

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Gly Pro Ile Asn Ile Ser Lys Ser Lys Ala His Lys Ala Ile Glu Leu  
660 665 670

Gly Pro Gly Pro Gly Leu Arg Thr Leu Glu Glu Leu Phe Leu Ser Thr  
675 680 685

Leu Ser Phe Val Gly Pro Gly Pro Gly Phe His Ser Ile Ala Gly Glu  
690 695 700

Tyr Arg Gly Glu Gln Oys Asn Thr Oys Gly Pro Gly Pro Gly Thr Thr Pro  
705 710 715 720

Ile Ile His Leu Lys Gly Asp Ala Asn Ile Leu Lys Gly Pro Gly Pro  
725 730 735

Gly Asp Trp Val Met Ala Ile Phe Gly Val Asn Pro Thr Val Ala Glu  
740 745 750

Gly Phe Gly Pro Gly Pro Gly Pro Arg Lys Leu His Glu Leu Ser Ser  
755 760 765

Ala Leu Glu Ile Pro Tyr Gly Pro Gly Pro Gly Phe Lys Thr Leu Ile  
770 775 780

Lys Pro Ala Thr Leu Tyr Ala His Ile Glu Gly Pro Gly Pro Gly Thr  
785 790 795 800

Ile Pro Asn Ser Val Glu Ile Ser Val Gly Tyr Met Thr Ile Gly Pro  
805 810 815

Gly Pro Gly Asn Gly Trp Phe Tyr Val Glu Ala Val Ile Asp Arg Glu  
820 825 830

Thr Gly Gly Pro Gly Pro Gly Val Leu Asp Phe Ala Phe Thr Asp Leu  
835 840 845

Thr Ile Val Tyr Arg Asp Gly Pro Gly Pro Gly Ala Lys Phe Val Ala  
850 855 860

Ala Trp Thr Leu Lys Ala Ala Ala  
865 870

<210> 157

<211> 2616

<212> DNA

<213> artificial

<400> 157

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Phoeni xTemp64308. t mp. t xt

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aaggacct gt	gcgt gaagat	ggg gat gct g	at gct ggt gc	ggg t caagaa	t gccgct ct c	180
caggacaaga	t cct ggacca	ct acaaggcc	gcct t t ct gc	t gt gct t ct g	cgt gct gct g	240
aacagcgt gt	acggcaccac	cct ggaacgg	aacgccgccg	t gaccaccag	at accccct g	300
ct gcggaat g	ccaccct cca	ggaaat cgt c	ct gcacgt ca	at t act acat	caccgagacc	360
ggcat ct gga	aggt ggt gt t	cat ct acat c	cccct gt t ca	accagaccga	gcccgaacacc	420
agcaact acg	gagccgccga	act cgat ccc	gt ggacct gc	t gt gct acaa	agccgct gcc	480
ct gaccgacg	t gagcat cgc	ct gcgt gt ac	aacgccgccca	ggaccgaggt	gt accagt t t	540
gcct t t cgga	accct acct	gcacagcaga	ct ggt ggt gt	t t aacat cag	ct t cgccggc	600
at cgt gacca	agaaagt gat	ggacgacagc	gagat cgcct	acaacgcct t	ct acagccgg	660
at cagagagc	t gaggt t caa	agccgct gcc	t t t at ct aca	t t cct ct gt t	cgt gat caag	720
gccgt gt t ca	cct t ccccca	cgcct t ccct	t t caat gcct	t ct act ccaa	ggg gt ccgag	780
t t ccggt gga	agagcct ggt	gt t cct gct g	t gt t t cagcg	t gaacgccag	caccgccgct	840
gccct gt act	ggg acaggaa	ggccaccct g	t acgcccata	t ccagt gcct	gaat gccgcc	900
cact acacca	act ggaagt t	cat ct t caat	gccgccaaca	ccgagct gt a	caacct gct g	960
at caacgccca	gct act t cgg	cat gagct t c	at ccact t ca	agct gacca	caagggcat c	1020
t gcgacct ga	act ccgt gt a	cggcgagaca	ct ggaaaaga	acgt gt acgt	gt gcgcct t c	1080
gcct ggct gc	t gaacgt gt a	t ggcaaca	ct ggaaaaac	t gaagct gt c	ccagat ggt g	1140
cagt gggcct	at aaagccgc	cgcct acgt g	gt gt gggaca	gcat ct act a	t at caacggc	1200
accggct gt a	acggct ggt t	t t acggcgcc	gct gccgt ga	t gt gccggca	ct acaagcgg	1260
aat t t t ct gc	t gt gt t t t c	cgt gt gcct g	aacgccgt gt	at cagt t cgc	ct t t aaggat	1320
ct gaaggct g	ccaaagt gt c	t gagt t caga	t ggt acaggt	acaagt acac	aaat t ggaag	1380
t t t at ct at c	t gaacgccgc	cct gagcagc	gccct ggaaa	t cccct at aa	ggct gcct t c	1440
ct gt t caccg	at ct gact at	t gt gaacgcc	gccaccaccc	ccat cat cca	cct gaaaaac	1500
gccgct gcca	ggcagat gaa	cat gagccag	t ggat caaga	acaccggcat	cct gaccgt g	1560
acct acaacg	t gt t t acct t	t cccaaccct	t t cccct t t a	aagccgct gc	cgagat cgt g	1620
ct gcacct gg	aacccagaa	cgagct ggac	cct gt gggcc	ct ggccct gg	cat cagaat c	1680
ct ccaggaac	t gct gat ggg	cagct t cggc	at cgt gggcc	caggccccgg	aaccggccgg	1740
t gcat cgcct	gt t ggcgag	gccccggacc	gagacaggcc	ct ggaccgg	ct ggaagcac	1800
at ccggct gg	aat gcgt gct	gat gt acaag	gccaggggac	ccggccct gg	cct ct gt at c	1860
gt gt accgcg	act gcat cgc	ct acgccgc	t gccacggcc	caggacct gg	ccccgagt gg	1920
at cgagcggc	agaccgt gct	ccagcat agc	t t caacggac	ccggaccagg	ccccat caac	1980
at cagcaaga	gcaaggccca	caaggccat c	gagct gggcc	ct gggcccgg	act gcggacc	2040
ct ccagcagc	t gt t cct gag	caccct gage	t t cgt gggac	ct gggccagg	ct t ccacagc	2100

Phoeni xTemp64308. t mp. t xt

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 at t at t cacc t gaagggcga cgccaacat c ct gaaggggc caggaccgg cgact gggt g 2220  
 at ggccat ct t cggcgt gaa cccaccgt g gccgagggt t cggacct gg acct gggcct 2280  
 aggaagct gc acgagct gt c ct ct gccct g gaaat t cct t acggccct gg cccaggct t c 2340  
 aagaccct ga t caagcccgc cacact gt at gccacat t c agggccct gg accaggcacc 2400  
 at cccaaca gcgt gcagat cagcgt gggc t acat gacca t cggaccagg gcct ggcaat 2460  
 ggct ggt t ct acgt ggaggc cgt gat cgac aggcagaccg gcggacct gg cccaggggt g 2520  
 ct ggact t cg cct t t acaga cct gacaat t gt gt accggg acggccct gg gcct ggcgcc 2580  
 aagt t cgt gg ccgcct ggac cct gaaggcc gct gcc 2616

<210> 158

<211> 872

<212> PRT

<213> artificial

<400> 158

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

Thr Asn Trp Lys Phe Ile Tyr Leu Asn Ala Ser Val Tyr Gly Glu Thr  
 50 55 60

Leu Glu Lys Gly Ala Ala Val Met Cys Arg His Tyr Lys Arg Asn Ala  
 65 70 75 80

Val Tyr Gly Thr Thr Leu Glu Lys Leu Lys Val Val Phe Ile Tyr Ile  
 85 90 95

Pro Leu Phe Gly Ala Ala Lys Leu Leu Glu Lys Leu Leu Cys Ile Asn  
 100 105 110

Gly Thr Gly Cys Asn Gly Trp Phe Tyr Asn Gln Thr Glu Pro Asp Thr  
 115 120 125

Ser Asn Tyr Asn Ala Ala Ala Pro Tyr Leu His Ser Arg Leu Val Val  
 130 135 140

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

PhoenixTemp64308. tmp. txt

Ala His Tyr Thr Asn 165 Trp Lys Phe Ile Phe 170 Gly Ala Ala Phe Ile Tyr 175

Ile Pro Leu Phe 180 Val Ile Lys Ala 185 Ala Ala Met Val Met Leu 190 Met Leu

Val Arg Phe 195 Lys Asn Ala Ala Asn 200 Thr Glu Leu Tyr Asn 205 Leu Leu Ile

Asn Phe 210 Leu Phe Thr Asp Leu 215 Thr Ile Val Asn Phe 220 Leu Leu Cys Phe

Cys Val Leu Leu Asn Ala 230 Ala Thr Thr Pro Ile 235 Ile His Leu Lys Gly 240

Ala Ala Lys Leu Thr 245 Asn Lys Gly Ile Cys 250 Asp Leu Asn Ala Leu 255 Gln

Asp Lys Ile Leu 260 Asp His Tyr Lys Asn 265 Thr Gly Ile Leu Thr 270 Val Thr

Tyr Gly Ala 275 Ala Ala Val Met Asp 280 Asp Ser Glu Ile Ala 285 Tyr Asn Ser

Thr Trp 290 His Trp Thr Gly Cys 295 Asn Lys Lys Ala Ala 300 Ser Tyr Phe Gly

Met 305 Ser Phe Ile His Phe 310 Lys Leu Ser Ser Ala 315 Leu Glu Ile Pro Tyr 320

Lys Leu Ser Gln Met 325 Val Gln Trp Ala Tyr 330 Asn Ser Leu Val Phe 335 Leu

Leu Cys Phe Ser 340 Val Asn Ala Thr Leu 345 Tyr Ala His Ile Gln 350 Cys Leu

Asn Val Phe 355 Thr Phe Pro His Ala 360 Phe Pro Phe Asn 365 Ala Ala Ala Arg

Gln Met 370 Asn Met Ser Gln Trp 375 Ile Lys Asn Ala Thr 380 Leu Gln Glu Ile

Val 385 Leu His Val Asn Ala 390 Ala Phe Thr Asp Leu 395 Thr Ile Val Tyr Asn 400

Ile Ser Phe Ala Gly 405 Ile Val Thr Lys Lys 410 Tyr Val Val Trp Asp 415 Ser

Ile Tyr Tyr Ile 420 Asn Tyr Tyr Ile Thr 425 Glu Thr Gly Ile Trp 430 Lys Ala

Phoeni xTemp64308. t mp. t xt

Al a Al a Phe Tyr Ser Arg Ile Arg Gl u Leu Arg Phe Lys Val Tyr Gl n  
435 440 445

Phe Al a Phe Lys Asp Leu Lys Al a Phe Leu Leu Cys Phe Ser Val Cys  
450 455 460

Leu Asn Al a Al a Tyr Gl n Phe Al a Phe Lys Asp Leu Cys Val Lys Ser  
465 470 475 480

Val Tyr Gly Thr Thr Leu Gl u Arg Asn Lys Val Ser Gl u Phe Arg Trp  
485 490 495

Tyr Arg Tyr Lys Al a Al a Gl u Leu Asp Pro Val Asp Leu Leu Cys Tyr  
500 505 510

Lys Ser Thr Al a Al a Al a Leu Tyr Trp Tyr Arg Lys Al a Al a Al a Val  
515 520 525

Tyr Val Cys Al a Phe Al a Trp Leu Leu Gl u Ile Val Leu Hi s Leu Gl u  
530 535 540

Pro Gl n Asn Gl u Leu Asp Pro Val Gly Pro Gly Pro Gly Ile Arg Ile  
545 550 555 560

Leu Gl n Gl u Leu Leu Met Gly Ser Phe Gly Ile Val Gly Pro Gly Pro  
565 570 575

Gly Thr Gly Arg Cys Ile Al a Cys Trp Arg Arg Pro Arg Thr Gl u Thr  
580 585 590

Gly Pro Gly Pro Gly Trp Lys Hi s Ile Arg Leu Gl u Cys Val Leu Met  
595 600 605

Tyr Lys Al a Arg Gly Pro Gly Pro Gly Leu Cys Ile Val Tyr Arg Asp  
610 615 620

Cys Ile Al a Tyr Al a Al a Cys Hi s Gly Pro Gly Pro Gly Pro Gl u Trp  
625 630 635 640

Ile Gl u Arg Gl n Thr Val Leu Gl n Hi s Ser Phe Asn Gly Pro Gly Pro  
645 650 655

Gly Pro Ile Asn Ile Ser Lys Ser Lys Al a Hi s Lys Al a Ile Gl u Leu  
660 665 670

Gly Pro Gly Pro Gly Leu Arg Thr Leu Gl n Gl n Leu Phe Leu Ser Thr  
675 680 685

Leu Ser Phe Val Gly Pro Gly Pro Gly Phe Hi s Ser Ile Al a Gly Gl n  
690 695 700

Tyr Arg Gly Gln Cys Asn Thr Cys Gly Pro Gly Pro Gly Thr Thr Pro  
 705 710 715 720  
 Ile Ile His Leu Lys Gly Asp Ala Asn Ile Leu Lys Gly Pro Gly Pro  
 725 730 735  
 Gly Asp Trp Val Met Ala Ile Phe Gly Val Asn Pro Thr Val Ala Glu  
 740 745 750  
 Gly Phe Gly Pro Gly Pro Gly Pro Arg Lys Leu His Glu Leu Ser Ser  
 755 760 765  
 Ala Leu Glu Ile Pro Tyr Gly Pro Gly Pro Gly Phe Lys Thr Leu Ile  
 770 775 780  
 Lys Pro Ala Thr Leu Tyr Ala His Ile Gln Gly Pro Gly Pro Gly Thr  
 785 790 795 800  
 Ile Pro Asn Ser Val Gln Ile Ser Val Gly Tyr Met Thr Ile Gly Pro  
 805 810 815  
 Gly Pro Gly Asn Gly Trp Phe Tyr Val Glu Ala Val Ile Asp Arg Gln  
 820 825 830  
 Thr Gly Gly Pro Gly Pro Gly Val Leu Asp Phe Ala Phe Thr Asp Leu  
 835 840 845  
 Thr Ile Val Tyr Arg Asp Gly Pro Gly Pro Gly Ala Lys Phe Val Ala  
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 Ala Trp Thr Leu Lys Ala Ala Ala  
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<210> 159

<211> 2616

<212> DNA

<213> artificial

<400> 159

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g c c t t c c g g a a c g c c g c c g t g a c c a c c a g a t a c c c c c t g c t g c g g a a c g t g t t c a c c t t c	120
c c c a a c c c c t t c c c t t t c a a c t a c a c c a a c t g g a a g t t c a t c t a c c t g a a c g c c a g c g t g	180
t a c g g c g a g a c c c t g g a a a a g g g a g c a g c c g t g a t g t g c c g g c a c t a c a a g c g g a a c g c c	240
g t g t a c g g c a c c a c t g g a a a g c t g a a g g t g g t g t t c a t c t a c a t c c c c c t g t t c g g a	300
g c c g c c a a g c t g c t g g a a a a a c t g c t g t g c a t c a a c g g c a c c g g c t g c a a c g g c t g g t t c	360
t a c a a c c a g a c c g a g c c c g a c a c c a g c a a c t a c a a t g c t g c c g c c c c c t a c c t g c a c a g c	420

Phoeni xTemp64308. t mp. t xt

agact ggt gg t gt t t ggggc t gccgccct g accgacgt ga gcat cgcct g cgt gt acaac	480
gcccact aca caaat t ggaa at t cat t t t t ggagccgcct t cat ct at at t cct ct gt t c	540
gt gat caaag ccgcccgt at ggt gat gct g at gct ggt gc ggt t caagaa cgccgccaac	600
accgagct gt acaacct gct gat caact t c ct gt t caccg acct gacct cgt gaact t t	660
ct cct gt gt t t ct gcgt gct cct gaat gcc gccacaacct ccat cat cca cct gaaggga	720
gccgccaaac t gaccaacaa gggcat ct gc gacct gaat g ccct ccagga caagat cct g	780
gaccact aca agaacaccgg cat cct gacc gt gacct at g gagccgct gc cgt gat ggac	840
gacagcgaga t cgcct acaa cagcacct gg cact ggaccg gct gt aacaa gaaggccgcc	900
t cct act t cg gcat gagct t cat ccact t c aagct gt cca gcgccct gga aat cccct ac	960
aagct gt ccc agat ggt gca gt gggcct ac aact ccct gg t gt t cct gct gt gt t t cagc	1020
gt gaacgcaa ccct ct at gc ccacat ccag t gcct gaat g t gt t t acct t ccct cagccc	1080
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ct ccaggaga t t gt cct gca cgt caat gcc gcct t t act g at ct gact at cgt gt acaac	1200
at cagct t cg ccggcat cgt gaccaagaaa t acgt ggt gt gggacagcat ct act acat c	1260
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gagct gaggt t caaagt gt a t cagt t t gct t t caaagacc t gaaagcct t cct gct gt gc	1380
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gt gt at ggca caaccct gga acggaacaaa gt gt ct gact t ccgct ggt a caggt at aag	1500
gccgccgaac t cgat cccgt ggat ct gct g t gt t acaaga gcaact gccgc cgcact gt ac	1560
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ct ccaggaaac t gct gat ggg cagct t cggc at cgt gggcc caggccccgg aaccggccgg	1740
t gcat cgcct gt t ggcggag gccccggacc gagacaggcc ct ggaccgg ct ggaagcac	1800
at ccggct gg aat gcgt gct gat gt acaag gccaggggac ccggccct gg cct ct gt at c	1860
gt gt accgcg act gcat cgc ct acgccgc t gccacggcc caggacct gg ccccgagt gg	1920
at cgagcggc agaccgt gct ccagcat agc t t caacggac ccggaccagg ccccat caac	1980
at cagcaaga gcaaggccca caaggccat c gagct gggcc ct gggccccg act gcggacc	2040
ct ccagcagc t gt t cct gag caccct gagc t t cgt gggac ct gggccagg ct t ccacagc	2100
at cgccggcc agt accgggg ccagt gcaac acct gcggcc caggggcagg caccacacct	2160
at t at t cacc t gaagggcga cgccaacat c ct gaaggggc caggaccgg cgact gggg g	2220
at ggccat ct t cggcgt gaa cccaccgt g gccgagggt t cggacct gg acct gggcct	2280
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aagtctgtgg ccgcctggac cctgaaggcc gctgcc 2616

<210> 160

<211> 869

<212> PRT

<213> artificial

<400> 160

Lys Ser Leu Phe Gly Met Ser Leu Met Lys Asn Ser Thr Ala Ala Ala  
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Leu Tyr Trp Tyr Lys Lys Ala Ala Cys Tyr Ser Leu Tyr Gly Thr Thr  
20 25 30

Phe Lys Ala Ala Ala Val Ala Trp Asp Ser Val Tyr Tyr Met Lys Ser  
35 40 45

Thr Asp Leu Arg Asp His Ile Asp Tyr Asn Ile Ser Asp Tyr Arg His  
50 55 60

Tyr Cys Tyr Lys Ala Ala Gln Val Val Pro Ala Tyr Asn Ile Ser Lys  
65 70 75 80

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

Ile Asp His Tyr Lys Ala Ala Cys Leu Tyr Leu His Ile Gln Ser Leu  
100 105 110

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

Tyr Val Phe Cys Phe Leu Leu Asn Ala Ile Leu Tyr Ala His Ile Gln  
130 135 140

Cys Leu Asn Ala Ala Leu Tyr Asn Leu Leu Ile Arg Cys Phe Lys Ala  
145 150 155 160

Ala Phe Val Tyr Ile Pro Leu Phe Leu Ile Asn Thr Val Ser Ala Thr  
165 170 175

Gln Leu Val Lys Asn Gly Thr Gly Cys Asn Gly Trp Phe Tyr Asn Ala  
180 185 190

Ala Thr Lys Tyr Pro Leu Leu Lys Asn Val Tyr Val Phe Cys Phe Leu  
195 200 205

PhoenixTemp64308. tmp. txt

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

Gly Thr Leu Gly Ile Val Oys Pro Val Asn Ser Val Ile Oys Phe Val  
 485 490 495  
 Asn Ser Lys Asn Ala Thr Leu Glu Lys Leu Thr Asn Thr Gly Leu Tyr  
 500 505 510  
 Asn Ala Gly Leu Tyr Tyr Val His Glu Gly Ile Arg Thr Tyr Phe Val  
 515 520 525  
 Glu Gly Pro Gly Pro Gly Phe Leu Asn Thr Val Ala Ile Pro Asp Ser  
 530 535 540  
 Val Glu Ile Leu Val Gly Pro Gly Pro Gly Glu Arg Phe His Asn Ile  
 545 550 555 560  
 Arg Gly Arg Trp Thr Gly Arg Oys Met Gly Pro Gly Pro Gly Thr Asn  
 565 570 575  
 Thr Gly Leu Tyr Asn Leu Leu Ile Arg Oys Leu Arg Oys Glu Gly Pro  
 580 585 590  
 Gly Pro Gly Ile Glu Phe Ile Thr Phe Leu Gly Ala Leu Lys Ser Phe  
 595 600 605  
 Leu Lys Gly Pro Gly Pro Gly Pro Glu Trp Ile Glu Arg Glu Thr Val  
 610 615 620  
 Leu Glu His Ser Phe Asn Gly Pro Gly Pro Gly Leu Phe Val Val Tyr  
 625 630 635 640  
 Arg Asp Ser Ile Pro His Ala Ala Oys His Lys Gly Pro Gly Pro Gly  
 645 650 655  
 Ile Arg Thr Leu Glu Asp Leu Leu Met Gly Thr Leu Gly Ile Val Gly  
 660 665 670  
 Pro Gly Pro Gly Leu Asp Leu Glu Pro Glu Thr Thr Asp Leu Tyr Oys  
 675 680 685  
 Tyr Glu Glu Gly Pro Gly Pro Gly Leu Glu Ala Ile Glu Leu Glu Leu  
 690 695 700  
 Thr Leu Glu Thr Ile Tyr Asn Gly Pro Gly Pro Gly Phe Glu Glu Leu  
 705 710 715 720  
 Phe Leu Asn Thr Leu Ser Phe Val Oys Pro Trp Gly Pro Gly Pro Gly  
 725 730 735  
 Trp Lys His Met Arg Leu Glu Oys Ala Ile Tyr Tyr Lys Ala Arg Gly  
 740 745 750  
 Pro Gly Pro Gly Leu Oys Thr Glu Leu Glu Thr Thr Ile His Asp Ile

755

I l e L e u G l u G l y P r o G l y P r o G l y P h e L y s T h r L e u I l e G l n P r o P h e  
770 775 780

I l e L e u T y r A l a H i s I l e G l n G l y P r o G l y P r o G l y L e u T y r T r p T y r  
785 790 795 800

L y s T h r G l y I l e S e r A s n I l e S e r G l u V a l T y r G l y P r o G l y P r o G l y  
805 810 815

G l u V a l P h e G l u P h e A l a P h e L y s A s p L e u P h e V a l V a l T y r A r g G l y  
820 825 830

P r o G l y P r o G l y H i s L y s A l a I l e G l u L e u G l n M e t A l a L e u G l n G l y  
835 840 845

L e u A l a G l n G l y P r o G l y P r o G l y A l a L y s P h e V a l A l a A l a T r p T h r  
850 855 860

L e u L y s A l a A l a A l a  
865

<210> 161

<211> 2607

<212> DNA

<213> a r t i f i c i a l

<400> 161

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gacagcgtgt actacatgaa gagcaccgac ctgcgggacc acatcgact a caacat cagc 180  
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