

SEQUENCE LISTING

<110> SYNAGEVA BIOPHARMA CORP.

<120> RECOMBINANT HUMAN NAGLU PROTEIN AND USES THEREOF

<130> 121424-00520

<140> Not Yet Assigned

<141> 2012-10-12

<150> US 61/546,248

<151> 2011-10-12

<160> 5

<170> PatentIn version 3.5

<210> 1

<211> 743

<212> PRT

<213> Human

<400> 1

Met Glu Ala Val Ala Val Ala Ala Ala Val Gly Val Leu Leu Leu Ala
1 5 10 15

Gly Ala Gly Gly Ala Ala Gly Asp Glu Ala Arg Glu Ala Ala Ala Val
20 25 30

Arg Ala Leu Val Ala Arg Leu Leu Gly Pro Gly Pro Ala Ala Asp Phe
35 40 45

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

Tyr Ser Leu Gly Gly Gly Gly Ala Ala Arg Val Arg Val Arg Gly Ser
65 70 75 80

Thr Gly Val Ala Ala Ala Ala Gly Leu His Arg Tyr Leu Arg Asp Phe
85 90 95

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

Pro Leu Pro Ala Val Pro Gly Glu Leu Thr Glu Ala Thr Pro Asn Arg
115 120 125

Tyr Arg Tyr Tyr Gln Asn Val Cys Thr Gln Ser Tyr Ser Phe Val Trp

130	135	140														
Trp 145	Asp	Trp	Ala	Arg	Trp 150	Glu	Arg	Glu	Ile	Asp 155	Trp	Met	Ala	Leu	Asn 160	
Gly	Ile	Asn	Leu	Ala 165	Leu	Ala	Trp	Ser	Gly 170	Gln	Glu	Ala	Ile	Trp 175	Gln	
Arg	Val	Tyr	Leu 180	Ala	Leu	Gly	Leu	Thr 185	Gln	Ala	Glu	Ile	Asn 190	Glu	Phe	
Phe	Thr	Gly 195	Pro	Ala	Phe	Leu	Ala 200	Trp	Gly	Arg	Met	Gly 205	Asn	Leu	His	
Thr	Trp 210	Asp	Gly	Pro	Leu	Pro 215	Pro	Ser	Trp	His	Ile 220	Lys	Gln	Leu	Tyr	
Leu 225	Gln	His	Arg	Val	Leu 230	Asp	Gln	Met	Arg	Ser 235	Phe	Gly	Met	Thr	Pro 240	
Val	Leu	Pro	Ala	Phe 245	Ala	Gly	His	Val	Pro 250	Glu	Ala	Val	Thr	Arg 255	Val	
Phe	Pro	Gln	Val 260	Asn	Val	Thr	Lys	Met 265	Gly	Ser	Trp	Gly	His 270	Phe	Asn	
Cys	Ser	Tyr 275	Ser	Cys	Ser	Phe	Leu 280	Leu	Ala	Pro	Glu	Asp 285	Pro	Ile	Phe	
Pro	Ile 290	Ile	Gly	Ser	Leu	Phe 295	Leu	Arg	Glu	Leu	Ile 300	Lys	Glu	Phe	Gly	
Thr 305	Asp	His	Ile	Tyr	Gly 310	Ala	Asp	Thr	Phe	Asn 315	Glu	Met	Gln	Pro	Pro 320	
Ser	Ser	Glu	Pro	Ser 325	Tyr	Leu	Ala	Ala	Ala 330	Thr	Thr	Ala	Val	Tyr 335	Glu	
Ala	Met	Thr	Ala 340	Val	Asp	Thr	Glu	Ala 345	Val	Trp	Leu	Leu	Gln 350	Gly	Trp	
Leu	Phe	Gln 355	His	Gln	Pro	Gln	Phe 360	Trp	Gly	Pro	Ala	Gln 365	Ile	Arg	Ala	

Val Leu Gly Ala Val Pro Arg Gly Arg Leu Leu Val Leu Asp Leu Phe
370 375 380

Ala Glu Ser Gln Pro Val Tyr Thr Arg Thr Ala Ser Phe Gln Gly Gln
385 390 395 400

Pro Phe Ile Trp Cys Met Leu His Asn Phe Gly Gly Asn His Gly Leu
405 410 415

Phe Gly Ala Leu Glu Ala Val Asn Gly Gly Pro Glu Ala Ala Arg Leu
420 425 430

Phe Pro Asn Ser Thr Met Val Gly Thr Gly Met Ala Pro Glu Gly Ile
435 440 445

Ser Gln Asn Glu Val Val Tyr Ser Leu Met Ala Glu Leu Gly Trp Arg
450 455 460

Lys Asp Pro Val Pro Asp Leu Ala Ala Trp Val Thr Ser Phe Ala Ala
465 470 475 480

Arg Arg Tyr Gly Val Ser His Pro Asp Ala Gly Ala Ala Trp Arg Leu
485 490 495

Leu Leu Arg Ser Val Tyr Asn Cys Ser Gly Glu Ala Cys Arg Gly His
500 505 510

Asn Arg Ser Pro Leu Val Arg Arg Pro Ser Leu Gln Met Asn Thr Ser
515 520 525

Ile Trp Tyr Asn Arg Ser Asp Val Phe Glu Ala Trp Arg Leu Leu Leu
530 535 540

Thr Ser Ala Pro Ser Leu Ala Thr Ser Pro Ala Phe Arg Tyr Asp Leu
545 550 555 560

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

Glu Glu Ala Arg Ser Ala Tyr Leu Ser Lys Glu Leu Ala Ser Leu Leu
580 585 590

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

595	600	605
Val 610	Leu 615	Ala Ser Asp Ser Arg Phe Leu Leu Gly Ser Trp Leu Glu Gln 620
Ala 625	Arg Ala Ala Ala Val Ser Glu Ala Glu Ala Asp Phe Tyr Glu Gln 630 635 640	
Asn Ser Arg Tyr Gln Leu Thr Leu Trp Gly Pro Glu Gly Asn Ile Leu 645 650 655		
Asp Tyr Ala Asn Lys Gln Leu Ala Gly Leu Val Ala Asn Tyr Tyr Thr 660 665 670		
Pro Arg Trp Arg Leu Phe Leu Glu Ala Leu Val Asp Ser Val Ala Gln 675 680 685		
Gly Ile Pro Phe Gln Gln His Gln Phe Asp Lys Asn Val Phe Gln Leu 690 695 700		
Glu Gln Ala Phe Val Leu Ser Lys Gln Arg Tyr Pro Ser Gln Pro Arg 705 710 715 720		
Gly Asp Thr Val Asp Leu Ala Lys Lys Ile Phe Leu Lys Tyr Tyr Pro 725 730 735		
Arg Trp Val Ala Gly Ser Trp 740		

<210> 2
 <211> 2234
 <212> DNA
 <213> Human

<400> 2
 atggaggcgg tggcgggtggc cgcggcggtg ggggtccttc tcctggccgg ggccgggggc
 60
 gcggcaggcg acgaggcccc ggaggcggcg gccgtgcggg cgctcgtggc ccggctgctg
 120
 gggccaggcc ccgcggccga cttctccgtg tcggtggagc gcgctctggc tgccaagccg
 180
 ggcttggaca cctacagcct gggcggcggc ggcgcggcgc gcgtgcgggt gcgcggctcc
 240

acgggctggtg cagccgccgc ggggctgcac cgctacctgc gcgacttctg tggctgccac
300

gtggcctggt ccggctctca gctgcgcctg ccgcggccac tgccagccgt gccgggggag
360

ctgaccgagg ccacgcccac caggtaccgc tattaccaga atgtgtgcac gcaaagctac
420

tctttcgtgt ggtgggactg ggcccgggtg gagcgagaga tagactggat ggcgctgaat
480

ggcatcaacc tggcactggc atggagcggc caggaggcca tctggcagcg ggtgtacctg
540

gccttggggc tgaccagggc agagatcaat gagtcttcta ctggctcctgc cttcttggca
600

tgggggcgaa tgggcaacct gcacacctgg gatggcccc tgccccctc ctggcacatc
660

aagcagcttt atctgcagca ccgggtcctg gaccagatgc gctccttcgg catgaccca
720

gtgctgcctg cattcgcggg gcatgttccc gaggctgtca ccagggtgtt ccctcaggtc
780

aatgtcacga agatgggcag ttggggccac tttactgtt cctactcctg ctccttcctt
840

ctggctccgg aagaccccat attccccatc atcgggagcc tcttcttgcg agagctgac
900

aaagagtttg gcacagacca catctatggg gccgacactt tcaatgagat gcagccacct
960

tcctcagagc cctcctatct tgccgcagcc accactgccg tctatgaggc catgactgca
1020

gtggatactg aggctgtgtg gctgctccaa ggctggctct tccagcacca gccgcagttc
1080

tggggggccg cccagatcag ggctgtgctg ggagctgtgc cccgtggccg cctcctgggt
1140

ctggacctgt ttgctgagag ccagcctgtg tatacccgca ctgcctcctt ccaaggccag
1200

cccttcactt ggtgcatgct gcacaacttt gggggaaatc atggctcttt tggagccttg
1260

gaggccgtga acggaggccc agaagctgcc cgcctcttcc ccaactccac aatggtaggc
1320

acgggcatgg cccccgaggg catcagccag aacgaagtgg tctattccct catggctgag
1380

ctgggctggc gaaaggaccc agtgccagat ttggcagcct gggtgaccag ctttgccgcc
1440

cggcggtatg gggctctcca cccggacgca ggggcagcgt ggaggctact gctccggagt
1500

gtgtacaact gctccgggga ggcatgcagg ggccacaatc gtagcccgct ggtcaggcgg
1560

ccgtccctac agatgaatac cagcatctgg tacaaccgat ctgatgtgtt tgaggcctgg
1620

cggtgtctgc tcacatctgc tccctccctg gccaccagcc ccgccttccg ctacgacctg
1680

ctggacctca ctcggcaggc agtgcaggag ctggtcagct tgtattatga ggaggcaaga
1740

agcgcctatc tgagcaagga gctggcctcc ttgttgaggg ctggaggcgt cctggcctat
1800

gagctgctgc cggcactgga cgaggtgctg gctagtgaca gccgcttctt gctgggcagc
1860

tggctagagc agggccgagc agcggcagtc agtgaggccg agggcgattt ctacgagcag
1920

aacagccgct accagctgac cttgtggggg ccagaaggca acatcctgga ctatgccaac
1980

aagcagctgg cgggggttgg ggccaactac tacaccctc gctggcggct tttctggag
2040

gcgctgggtg acagtgtggc ccagggcatc cttttccaac agcaccagtt tgacaaaaat
2100

gtctttcaac tggagcaggc cttcgttctc agcaagcaga ggtaccccag ccagccgcga
2160

ggagacactg tggacctggc caagaagatc ttcctcaaatt attacccccg ctgggtggcc
2220

ggctcttggt gatt
2234

<210> 3
<211> 1132
<212> DNA
<213> Chicken

<400> 3
gttaagtcct cagacttggc aaggagaatg tagatttcca cagtatatat gttttcacia
60

aaggaaggag agaaacaaaa gaaaatggca ctgactaaac ttcagctagt ggtataggaa
120

agtaattctg cttacagag attgcagtga tctctatgta tgtcctgaag aattatgttg
180

tacttttttc cccattttt aaatcaaaca gtgctttaca gaggtcagaa tggtttcttt
240

actgtttgtc aattctatta tttcaatata gaacaatagc ttctataact gaaatatatt
300

tgctattgta tattatgatt gtccctcgaa ccatgaacac tcctccagct gaatttcaca
360

attcctctgt catctgccag gccattaagt tattcatgga agatctttga ggaacactgc
420

aagttcatat cataaacaca tttgaaattg agtattgttt tgcattgtat ggagctatgt
480

tttgctgtat cctcagaata aaagtttggt ataaagcatt cacaccata aaaagataga
540

tttaaattatt ccaactatag gaaagaaagt gtgtctgctc ttcactctag tctcagttgg
600

ctccttcaca tgcacgcttc tttatttctc ctattttgtc aagaaaataa taggtcaagt
660

cttgtttctca tttatgtcct gtctagcgtg gctcagatgc acattgtaca tacaagaagg
720

atcaaatgaa acagacttct ggtctgttac tacaaccata gtaataagca cactaactaa
780

taattgctaa ttatgttttc catctccaag gttcccacat ttttctgttt tcttaaagat
840

ccattatct ggttgtaact gaagctcaat ggaacatgag caatatttcc cagtcttctc
900

tcccatccaa cagtcctgat ggattagcag aacaggcaga aaacacattg ttaccagaa
960

ttaaaaaacta atatttgctc tccattcaat ccaaaatgga cctattgaaa ctaaaatcta
1020

acccaatccc attaaatgat ttctatggtg tcaaaggcca aacttctgaa gggaacctgt
1080

gggtgggtca caattcagac tatatattcc ccagggtca gccagtgtct gt
1132

<210> 4
<211> 10256
<212> DNA
<213> Artificial Sequence

<220>

<223> pSIN-OV-1.1-I-rhNaGlu

<400> 4

ggccgcaaga agaaagctga aaaactctgt cccttccaac aagacccaga gcactgtagt
60

atcaggggta aaatgaaaag tatgttatct gctgcatcca gacttcataa aagctggagc
120

ttaattcaga aaaaaaatca gaaagaaatt acactgtgag aacaggtgca attcactttt
180

cctttacaca gagtaatact ggtaactcat ggatgaaggc ttaaggggaat gaaattggac
240

tcacagtact gagtcatcac actgaaaaat gcaacctgat acatcagcag aaggtttatg
300

ggggaaaaat gcagccttcc aattaagcca gatatctgta tgaccaagct gctccagaat
360

tagtcactca aaatctctca gattaaatta tcaactgtca ccaaccattc ctatgctgac
420

aaggcaattg cttgtttctct gtgttcctga tactacaagg ctcttcctga cttcctaaag
480

atgcattata aaaatcttat aattcacatt tctccctaaa ctttgactca atcatgggat
540

gttggcaaat atggtatatt actattcaaa ttgttttcct tgtaccata tgtaatgggt
600

cttgtgaatg tgctcttttg ttcctttaat cataataaaa acatgtttta gcaaacactt
660

ttcacttgta gtatttgaag gtaccggatc tcgagccgcc ttcaatgccc ccaaaccaa
720

tccccaggtt tttaactctc ccgattttcc aagtaccata gcccgtgag agagcgccgc
780

ggtaatggga tcccaggacc ccggggaata taagtctgag ggggacgtaa gcaacccttc
840

cttttgtaac agggacaaca tagcccctat ttccttctta gaaggagagg ttttcccgca
900

ataggtctta cacgcggacg aaatcacctt tatgacggct tccatgcttg atccaccggg
960

cgaccggaat cacgcagagc aaccggaatc acgcctgggg tggaccgctc agtcgtcggg
1020

cttccttccc gtcttccaac gactctctga gttctcggta gggatatgttg gccccctgca
1080

gtagggctcc ctccgacgcc actcagcttc tgccctccta agccgcagcc ccctctacta
1140

gggtcatcgt ccgctccccg aataagcgag acggatgagg acaggatcgc cacgccgcct
1200

gtggccgacc actattccct aacgatcacg tcggggtcac caaatgaagc ctctctgttc
1260

atgcatgtgc tcgtagtcgt cagggaatca acggtccggc catcaacca ggtgcacacc
1320

aatgtggtga atggtcaaata ggcgtttatt gtatcgagct aggcacttaa atacaatatc
1380

tctgcaatgc ggaattcagt ggttcgtcca atccgtgtta gaccgtctg ttgccttcct
1440

aacaaggcac gatcatacca cgatcatacc accttactcc caccaatcgg catgcacggt
1500

gctttttctc tccttataag gcatgttgct aactcatcgt tacataagca tgttgcaaga
1560

ctacaagagt attgcataag actacatttc cccctcccta tgcaaaagcg aaactactat
1620

atcctgaggg gactcctaac cgcgtagaac cgaagccccg cttttcgctt aaacatgcta
1680

ttgtcccctc agtcaagcct tgcccgttac aacccgattc gcaagccttg cctccccac
1740

attatccgta gcattatttc ctagcagtca tcagagctac agaagatact ctatgctgta
1800

gccaaagtcta caagtttact attcagcgac ctccatatatt ccgctgtcca gccgatcaat
1860

taccaatgcg cgcttggcgt aatcatggtc atagctgttt cctgtgtgaa attgttatcc
1920

gctcacaatt ccacacaaca tacgagccgg aagcataaag tgtaaagcct ggggtgccta
1980

atgagtgagc taactcacat taattgcgtt gcgctcactg cccgctttcc agtcgggaaa
2040

cctgtcgtgc cagctgcatt aatgaatcgg ccaacgcgcg gggagaggcg gtttgcgtat
2100

tgggcgctct tccgcttcct cgctcactga ctcgctgcgc tcggctcgttc ggctgcggcg
2160

agcggtatca gctcactcaa aggcggtaat acggttatcc acagaatcag gggataacgc
2220

aggaaagaac atgtgagcaa aaggccagca aaaggccagg aaccgtaaaa aggccgcgtt
2280

gctggcggtt ttccataggc tccgcccccc tgacgagcat cacaaaaatc gacgctcaag
2340

tcagagggtg cgaaacccga caggactata aagataccag gcgtttcccc ctggaagctc
2400

cctcgtgctg tctcctgttc cgaccctgcc gcttaccgga tacctgtccg cttttctccc
2460

ttcgggaagc gtggcgcttt ctcatagctc acgctgtagg tatctcagtt cgggtgtaggt
2520

cgttcgctcc aagctgggct gtgtgcacga accccccgtt cagcccagacc gctgcgctt
2580

atccggtaac tatcgtcttg agtccaaccc ggtaagacac gacttatcgc cactggcagc
2640

agccactggt aacaggatta gcagagcgag gtatgtaggc ggtgctacag agttcttgaa
2700

gtggtggcct aactacggct acactagaag gacagtatct ggtatctgctg ctctgctgaa
2760

gccagttacc ttcggaaaaa gagttggtag ctcttgatcc ggcaaacaaa ccaccgctgg
2820

tagcgggtgg ttttttggtt gcaagcagca gattacgcgc agaaaaaaag gatctcaaga
2880

agatcctttg atcttttcta cgggggtctga cgctcagtgg aacgaaaact cacgttaagg
2940

gattttggct atgagattat caaaaaggat cttcacctag atccttttaa attaaaaatg
3000

aagttttaaa tcaatctaaa gtatatatga gtaaacttgg tctgacagtt accaatgctt
3060

aatcagttag gcacctatct cagcgatctg tctatttcgt tcatccatag ttgcctgact
3120

ccccgtcgtg tagataacta cgatacggga gggcttacca tctggcccca gtgctgcaat
3180

gataccgcga gaccacgct caccggctcc agatttatca gcaataaacc agccagccgg
3240

aagggccgag cgcagaagtg gtcctgcaac tttatccgcc tccatccagt ctattaattg
3300

ttgccgggaa gctagagtaa gtagttcgcc agttaatagt ttgcgcaacg ttgttgccat
3360

tgctacaggc atcgtggtgt cacgctcgtc gtttggtatg gcttcattca gctccggttc
3420

ccaacgatca aggcgagtta catgatcccc catgttgtgc aaaaaagcgg ttagctcctt
3480

cggtcctccg atcgttgtca gaagtaagtt ggccgcagtg ttatcactca tggttatggc
3540

agcactgcat aattctctta ctgtcatgcc atccgtaaga tgcttttctg tgactgggtga
3600

gtactcaacc aagtcattct gagaatagtg tatgcggcga ccgagttgct cttgcccggc
3660

gtcaatacgg gataataccg cgccacatag cagaacttta aaagtgctca tcattggaaa
3720

acgttcttcg gggcgaaaac tctcaaggat cttaccgctg ttgagatcca gttcgatgta
3780

accactcgt gcacccaact gatcttcagc atcttttact ttcaccagcg tttctgggtg
3840

agcaaaaaca ggaaggcaaa atgccgcaaa aaagggaata agggcgacac ggaaatgttg
3900

aatactcata ctcttccttt ttcaatatta ttgaagcatt tatcagggtt attgtctcat
3960

gagcggatac atatttgaat gtatttagaa aaataaaca ataggggttc cgcgcacatt
4020

tccccgaaaa gtgccacctg acgcgccctg tagcggcgca ttaagcgcgg cgggtgtggt
4080

ggttacgcg agcgtgaccg ctacacttgc cagcgcccta gcgcccgtc ctttcgcttt
4140

cttcccttcc tttctcgcca cgttcgccgg ctttccccgt caagctctaa atcgggggct
4200

ccctttaggg ttccgattta gtgctttacg gcacctcgac cccaaaaaac ttgattaggg
4260

tgatggttca cgtagtgggc catcgccctg atagacggtt tttcgccctt tgacgttga
4320

gtccacgttc tttaatagtg gactcttggt ccaaactgga acaacactca accctatctc
4380

ggtctattct tttgatttat aagggatttt gccgatttcg gcctattggt taaaaaatga
4440

gctgatttaa caaaaattta acgcgaattt taacaaaata ttaacgctta caatttccat
4500

tcgccattca ggctgcgcaa ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta
4560

cgccagctgg cgaaaggggg atgtgctgca aggcgattaa gttgggtaac gccagggttt
4620

tcccagtcac gacgttgtaa aacgacggcc agtgagcgcg tattccctaa cgatcacgtc
4680

ggggtcacca aatgaagcct tctgcttcat gcatgtgctc gtagtcgtca gggaatcaac
4740

gggtccggcca tcaacccagg tgcacaccaa tgtggtgaat ggtcaaattg cgtttattgt
4800

atcgagctag gcacttaaat acaatatctc tgcaatgcgg aattcagtggt ttcgtccaat
4860

ccgtccccct ccctatgcaa aagcgaaact actatatcct gaggggactc ctaaccgcgt
4920

acaaccgaag ccccgctttt cgcctaaaca tgctattgtc ccctcagtcga agccttgccc
4980

gttacaaccc gattcgcaag ccttgccctc cccacattat ccgtagcatt atttcctagc
5040

agtcatcaga gctacagaag atactctatg ctgtagccaa gtctacaagt ttactattca
5100

gcgacctcct atattccgcg tgccagccga tcaattacca atccaaccag ctatcacacg
5160

gaatacaaga actgccttac gctcttcttt cgggctgctt ataagcctcc tgaattttt
5220

ttatattcct cgtttaagtcc tcagacttgg caaggagaat gtagatttcc acagtatata
5280

tgttttcaca aaaggaagga gagaaacaaa agaaaatggc actgactaaa cttcagctag
5340

tggtatagga aagtaattct gcttaacaga gattgcagtg atctctatgt atgtcctgaa
5400

gaattatggt gtactttttt cccccatttt taaatcaaac agtgctttac agaggtcaga
5460

atgggtttctt tactgtttgt caattctatt atttcaatac agaacaatag cttctataac
5520

tgaaatatat ttgctattgt atattatgat tgtccctcga accatgaaca ctccctccagc
5580

tgaatttcac aattcctctg tcatctgccg ggccattaag ttattcatgg aagatctttg
5640

aggaacactg caagttcata tcataaacac atttgaaatt gagtattggt ttgcattgta
5700

tggagctatg ttttgctgta tcctcagaat aaaagtttgt tataaagcat tcacacccat
5760

aaaaagatag atttaaatat tccaactata ggaaagaaag tgtgtctgct cttcactcta
5820

gtctcagttg gctccttcac atgcacgctt ctttatttct cctattttgt caagaaaata
5880

ataggccaag tcttggtctc atttatgtcc tgtctagcgt ggctcagatg cacattgtac
5940

atacaagaag gatcaaatga aacagacttc tgggtctgta ctacaacat agtaataagc
6000

acactaacta ataattgcta attatgtttt ccatctccaa ggttcccaca tttttctggt
6060

ttcttaaaga tcccattatc tgggtgtaac tgaagctcaa tggaacatga gcaatatttc
6120

ccagtcttct ctcccatcca acagtcctga tggattagca gaacaggcag aaaacacatt
6180

gttaccaga attaaaaact aatatttgct ctccattcaa tccaaaatgg acctattgaa
6240

actaaaatct aacccaatcc cattaaatga tttctatggt gtcaaaggct aaacttctga
6300

agggaacctg tgggtgggtc acaattcaga ctatatattc cccagggctc agccagtgtc
6360

tgtacataca gctagaaagc tgtattgcct ttagcagtca agctcgaaag gtaagcaact
6420

ctctggaatt accttctctc tatattagct cttacttgca cctaaacttt aaaaaattaa
6480

caattattgt gctatgtgtt gtatctttta ggggtgaagta cctgcgtgat accccctata
6540

aaaacttctc acctgtgtat gcattctgca ctattttatt atgtgtaaaa gctttgtgtt
6600

tgttttcagg aggcttattc tttgtgctta aaatatgttt ttaatttcag aacatcttat
6660

cctgtcgttc actatctgat atgctttgca gtttgcttga ttaacttcta gccctacaga
6720

gtgcacagag agcaaaatca tgggtgttcag tgaattctgg ggagttattt taatgtgaaa
6780

attctctaga agtttaattc ctgcaaagtg cagctgctga tcactacaca agataaaaat
6840

gtgggggggtg cataaacgta tattcttaca ataatagata catgtgaact tatatacaga
6900

aaagaaaatg agaaaaatgt gtgtgtgtat actcacacac gtggtcagta aaaacttttg
6960

aggggtttta tacagaaaat ccaatcctga ggccccagca ctcagtacgc atataaaggg
7020

ctgggctctg aaggacttct gactttcaca gattatataa atctcaggaa agcaactaga
7080

ttcattgctgg ctccaaaagc tgtgctttat ataagcacac tggctataca atagtgttac
7140

agttcagctc tttataatag aaacagacag aacaagtata aatcttctat tggctctatgt
7200

catgaacaag aattcattca gtggctctgt tttatagtaa acattgctat tttatcatgt
7260

ctgcatttct cttctgtctg aatgtcacca ctaaaattta actccacaga aagtttatac
7320

tacagtacac atgcatatct ttgagcaaag caaaccatac ctgaaagtgc aatagagcag
7380

aatatgaatt acatgcgtgt ctttctccta gactacatga ccccatataa attacattcc
7440

ttatctattc tgccatcacc aaaacaaagg taaaaaatact tttgaagatc tactcatagc
7500

aagtagtgtg caacaaacag atatttctct acattttattt ttagggaata aaaataagaa
7560

ataaaatagt cagcaagcct ctgctttctc atatatctgt ccaaacctaa agtttactga
7620

aatttgctct ttgaatttcc agttttgcaa gcctatcaga ttgtgtttta atcagaggta
7680

ctgaaaagta tcaatgaatt ctagctttca ctgaacaaaa atatgtagag gcaactggct
7740

tctgggacag ttgctaccc aaaagacaac tgaatgcaaa tacataaata gatttatgaa
7800

tatggttttg aacatgcaca tgagaggtgg atatagcaac agacacatta ccacagaatt
7860

actttaaaac tacttggttaa catttaattg cctaaaaact gctcgtaatt tactgttgta
7920

gcctaccata gaggaccctg catggtacta tgtacagcat tccatcctta cattttcact
7980

gttctgctgt ttgctctaga caactcagag ttcaccatgg aggcgggtggc ggtggccgcg
8040

gcgggtggggg tcctttctct ggccgggggcc ggggggcgcgg caggcgacga ggcccgggag
8100

gcggcgggccg tgcgggcgct cgtggcccgg ctgctggggc caggccccgc ggccgacttc
8160

tccgtgtcgg tggagcgcgc tctggctgcc aagccgggct tggacaccta cagcctgggc
8220

ggcggcgggc cggcgcgcgt gcgggtgcgc ggctccacgg gcgtggcagc cgccgcgggg
8280

ctgcaccgct acctgcgcga cttctgtggc tgccacgtgg cctgggtccgg ctctcagctg
8340

cgccctgccgc ggccactgcc agccgtgccg ggggagctga ccgaggccac gcccaacagg
8400

taccgctatt accagaatgt gtgcacgcaa agctactctt tcgtgtggtg ggactggggc
8460

cgggtgggagc gagagataga ctggatggcg ctgaatggca tcaacctggc actggcatgg
8520

agcggccagg aggccatctg gcagcgggtg tacctggcct tgggcctgac ccaggcagag
8580

atcaatgagt tctttactgg tcctgccttc ttggcatggg ggcgaatggg caacctgcac
8640

acctgggatg gccccctgcc cccctcctgg cacatcaagc agctttatct gcagcaccgg
8700

gtcctggacc agatgcgctc cttcggcatg accccagtgc tgcctgcatt cgcggggcat
8760

gttcccaggc ctgtcaccag ggtgttcctt cagggtcaatg tcacgaagat gggcagttgg
8820

ggccacttta actgttccta ctctgctcc ttccttctgg ctccggaaga ccccatattc
8880

cccatcatcg ggagcctctt cttgcgagag ctgatcaaag agtttggcac agaccacatc
8940

tatggggccg acactttcaa tgagatgcag ccaccttcct cagagccctc ctatcttgcc
9000

gcagccacca ctgccgtcta tgaggccatg actgcagtgg atactgaggc tgtgtggctg
9060

ctccaaggct ggctcttcca gcaccagccg cagttctggg ggcccgccca gatcagggct
9120

gtgctgggag ctgtgccccg tggccgcctc ctggttctgg acctgtttgc tgagagccag
9180

cctgtgtata cccgcactgc ctccttccaa ggccagccct tcattctggtg catgctgcac
9240

aactttgggg gaaatcatgg tctttttgga gccttggagg ccgtgaacgg aggcccagaa
9300

gctgccccgc tcttccccaa ctccacaatg gtaggcacgg gcatggcccc cgagggcac
9360

agccagaacg aagtgggtcta ttccctcatg gctgagctgg gctggcgaaa ggacccagt
9420

ccagatttgg cagcctgggt gaccagcttt gccgcccggc ggtatggggc ctcccacccg
9480

gacgcagggg cagcgtggag gctactgctc cggagtgtgt acaactgctc cggggaggca
9540

tgcagggggc acaatcgtag cccgctggtc aggcggccgt ccctacagat gaataccagc
9600

atctggtaca accgatctga tgtgtttgag gcctggcggc tgctgctcac atctgctccc
9660

tccctggcca ccagccccgc cttccgctac gacctgctgg acctcactcg gcaggcagt
9720

caggagctgg tcagcttgta ttatgaggag gcaagaagcg cctatctgag caaggagctg
9780

gcctccttgt tgagggtggt aggcgtcctg gcctatgagc tgctgccggc actggacgag
9840

gtgctggcta gtgacagccg cttcttgctg ggcagctggc tagagcaggc ccgagcagcg
9900

gcagtcaagt aggccgaggc cgatttctac gagcagaaca gccgctacca gctgacctg
9960

tggggggccag aaggcaacat cctggactat gccacaagc agctggcggg gttggtggcc
10020

aactactaca cccctcgctg gcggcttttc ctggaggcgc tggttgacag tgtggcccag
10080

ggcatccctt tccaacagca ccagtttgac aaaaatgtct tccaactgga gcaggccttc
10140

gttctcagca agcagaggta cccagccag ccgcgaggag aactgtgga cctggccaag
10200

aagatcttcc tcaaata tta cccccgctgg gtggccggct cttggtgatt cgaagc
10256

<210> 5
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Transferrin receptor ligand (TfRL)

<400> 5

Thr	His	Arg	Pro	Pro	Met	Trp	Ser	Pro	Val	Trp	Pro
1				5					10		