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(54) Title **ANTIGEN BINDING PROTEINS CAPABLE OF BINDING THYMIC STROMAL LYMPHOPOIETIN**

(56) References Cited:

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WO-A-2007/096149
ALLAKHVERDI ZOULFIA ET AL: "Thymic stromal lymphopoietin is released by human epithelial cells in response to microbes, trauma, or inflammation and potently activates mast cells" JOURNAL OF EXPERIMENTAL MEDICINE, vol. 204, no. 2, February 2007 (2007-02), pages 253-258, XP002511407 ISSN: 0022-1007
SOUMELIS ET AL: "Human epithelial cells trigger dendritic cell-mediated allergic inflammation by producing TSLP" NATURE IMMUNOLOGY, NATURE PUBLISHING GROUP, GB, vol. 3, no. 7, 1 July 2002 (2002-07-01), pages 673-680, XP002979520 ISSN: 1529-2908

Enclosed is a translation of the patent claims in Norwegian. Please note that as per the Norwegian Patents Acts, section 66i the patent will receive protection in Norway only as far as there is agreement between the translation and the language of the application/patent granted at the EPO. In matters concerning the validity of the patent, language of the application/patent granted at the EPO will be used as the basis for the decision. The patent documents published by the EPO are available through Espacenet (http://worldwide.espacenet.com) or via the search engine on our website here: https://search.patentstyret.no/

Patentkrav

1. Et anti-TSLP humant antistoff omfattende:
a. en lettkjede variabel domene omfattende:
i. en lettkjede CDR1 sekvens omfattende aminosyresekvensen i SEKV ID NR:13;
ii. en lettkjede CDR2 sekvens omfattende aminosyresekvensen i SEKV ID NR:60; og
iii. en lettkjede CDR3 sekvens omfattende aminosyresekvensen i SEKV ID NR:105; og
b. en tungkjede variabel domene omfattende:
i. en tungkjede CDR1 sekvens omfattende aminosyresekvensen i SEKV ID NR:145;
ii. en tungkjede CDR2 sekvens omfattende aminosyresekvensen i SEKV ID NR:173 og
iii. en tungkjede CDR3 sekvens omfattende aminosyresekvensen i SEKV ID NR:212.

2. Anti-TSLP humant antistoff ifølge krav 1, omfattende:
a. en lettkjede variabel domene sekvens valgt fra gruppen bestående av:
i. aminosyrer som har en sekvens minst 80% identisk med SEKV ID NR:363;
ii. en sekvens av aminosyrer kodet for av en polynukleotidsekvens som er minst 80% identisk med SEKV ID NR:362;
iii. en sekvens av aminosyrer kodet for av en polynukleotidsekvens som hybridiserer under moderat stringente betingelser til komplementet av et polynukleotid bestående av SEKV ID NR:362;
og
b. en tungkjede variabel domene sekvens valgt fra gruppen bestående av:
i. en sekvens av aminosyrer som er minst 80% identisk med SEKV ID NR:361;
ii. en sekvens av aminosyrer kodet for av en polynukleotidsekvens som er minst 80% identisk med SEKV ID NR:360;
iii. en sekvens av aminosyrer kodet for av en polynukleotidsekvens som hybridiserer under moderat stringente betingelser til komplementet av et polynukleotid bestående av SEKV ID NR:360.

3. Anti-TSLP humant antistoff ifølge krav 1, omfattende:
en lettkjede variabel domene omfattende sekvensen i SEKV ID NR:363 og
en tungkjede variabel domene omfattende sekvensen i SEKV ID NR:361.

4. Anti-TSLP humant antistoff ifølge et hvilket som helst av kravene 1-2, hvor

a. anti-TSLP humant antistoff binder til TSLP med hovedsakelig samme Kd som et referanse antistoff og/eller
b. hvor anti-TSLP humant antistoff hemmer TSLP aktivitet i henhold til primær celle OPG forsøk med samme IC50 som et referanse antistoff,
hvor nevnte referanse antistoff er et antistoff omfattende en lettkjede variabel domene omfattende aminosyresekvensen i SEKV ID NR:363 og en tungkjede variabel domene omfattende aminosyresekvensen i SEKV ID NR:361.

5. Et farmasøytisk preparat omfattende anti-TSLP humant antistoff ifølge hvilket som helst av kravene 1-4.

6. En nukleinsyre omfattende en polynukleotidsekvens som koder for lettkjede variabel domene og tungkjede variabel domene av anti-TSLP humant antistoff ifølge hvilket som helst av kravene 1-4.

7. En rekombinant ekspresjonsvektor omfattende nukleinsyren ifølge krav 6.

8. En vertscelle omfattende
a) en ekspresjonsvektor omfattende et polynukleotid som koder for lettkjede variabel domene og tungkjede variabel domene av anti-TSLP humant antistoff ifølge hvilket som helst av kravene 1-4; eller
b) en ekspresjonsvektor omfattende et polynukleotid som koder for lettkjede variabel domene av anti-TSLP humant antistoff ifølge hvilket som helst av kravene 1-4 og en ekspresjonsvektor omfattende et polynukleotid som koder for tungkjede variabel domene av anti-TSLP humant antistoff ifølge hvilket som helst av kravene 1-4.

9. Et hybridom som er i stand til å produsere anti-TSLP humant antistoff ifølge hvilket som helst av kravene 1-4.

10. En metode for å produsere anti-TSLP humant antistoff ifølge hvilket som helst av kravene 1-4, omfattende inkubering av vertscellen ifølge krav 8 under betingelser som tillater det å uttrykke antistoffet.

11. Preparat ifølge krav 5 for anvendelse for behandling av
a. en TSLP-relatert inflammatorisk tilstand hos et individ med behov for slik behandling; eller

b. en TSLP-relatert fibrotisk lidelse hos et individ med behov for slik behandling.

12. Preparat for anvendelse ifølge krav 11, hvor den inflammatoriske tilstanden er valgt fra gruppen bestående av allergisk astma, allergisk rhinosinusitt, allergisk konjunktivitt og atopisk dermatitt.

13. Preparat for anvendelse ifølge krav 11, hvor den fibrotiske lidelsen er valgt fra gruppen bestående av sklerodermi, interstitiell lungesykdom, idiopatisk pulmonal fibrose, fibrose som oppstår fra kronisk hepatitt B eller C, strålings-fremkalt fibrose og fibrose som oppstår fra sårheling.

14. Anti-TSLP humant antistoff ifølge krav 1, hvor nevnte anti-TSLP humane antistoff er et monoklonalt antistoff.

15. Anti-TSLP humant antistoff ifølge krav 1, hvor nevnte anti-TSLP humant antistoff omfatter a) en lettkjede omfattende en lettkjede variabel domene omfattende aminosyresekvensen som angitt i SEKV ID NR:363 og en lambda lettkjede konstant domene omfattende aminosyresekvensen som angitt i SEKV ID NR:369; og b) en tungkjede omfattende en tungkjede variabel domene omfattende aminosyresekvensen som angitt i SEKV ID NR:361 og en IgG2 tung konstant domene omfattende aminosyresekvensen som angitt i SEKV ID NR:365.

16. Metode ifølge krav 10, hvor vertscellen er en CHO-celle.

17. Et anti-TSLP humant antistoff som kan oppnås ved metoden ifølge krav 16.

SEQUENCE LISTING

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COMEAU, MICHAEL R.
SMOTHERS, JAMES F.
YOON, BO-RIN P.
MEHLIN, CHRISTOPHER

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<130> A-1276-WO-PCT

<140> --to be assigned—
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<210> 189
<211> 17
<212> PRT
<213> Homo sapiens

<400> 189
Val Leu Trp Phe Asp Gly Ser Tyr Lys Asn Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 190
<211> 51
<212> DNA
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<400> 190
gcaattagtg gtagtggtgg aagtacacac tacgcagact ccgtgaaggg c 51

<210> 191
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<400> 191
Ala Ile Ser Gly Ser Gly Gly Ser Thr His Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 192
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<213> Homo sapiens

<400> 193
Gly Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 194
<211> 51

<212> DNA
<213> Homo sapiens

<400> 194
tggatcaacc ctaacaatgg tggcacaaac tatggacaga agtttcaggg c 51

<210> 195
<211> 17
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<213> Homo sapiens

<400> 195
Trp Ile Asn Pro Asn Asn Gly Gly Thr Asn Tyr Gly Gln Lys Phe Gln
1 5 10 15

Gly

<210> 196
<211> 51
<212> DNA
<213> Homo sapiens

<400> 196
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<210> 197
<211> 17
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<400> 197
Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Val Asp Ser Val Lys
1 5 10 15

Gly

<210> 198
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<400> 198
gctattagtc gtagtggtag taccacatac tacgcagact ccgtgaaggg c 51

<210> 199
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1 5 10 15

Gly

<210> 200
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<212> DNA
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<400> 200
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<210> 202
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<400> 202
Ala Ile Ser Tyr Ser Gly Gly Ser Thr Tyr Tyr Ala Gly Ser Val Lys
1 5 10 15

Gly

<210> 203
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<212> DNA
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<400> 203
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<210> 204
<211> 12
<212> PRT
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<400> 204
Leu Val Gly Ala Thr Asn Tyr Tyr Gly Met Asp Val
1 5 10

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<210> 206
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<400> 206
Pro Tyr Tyr Tyr Phe Tyr Gly Met Asp Val
1 5 10

<210> 207
<211> 36
<212> DNA
<213> Homo sapiens

<400> 207
gatgggggta gcagtggctg gcccctcttt gcctac 36

<210> 208
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<212> PRT
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<400> 208
Asp Gly Gly Ser Ser Gly Trp Pro Leu Phe Ala Tyr
1 5 10

<210> 209
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<212> DNA
<213> Homo sapiens

<400> 209
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<210> 210
<211> 12
<212> PRT
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Asp Arg Gly Thr Ser Gly Trp Pro Leu Phe Asp Tyr
1 5 10

<210> 211
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<212> DNA
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<210> 212
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<212> PRT
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<400> 212
Ala Pro Gln Trp Glu Leu Val His Glu Ala Phe Asp Ile
1 5 10

<210> 213
<211> 51
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<400> 213
ggggactcct ggaacgacag attaaactac tacttctacg atatggacgt c 51

<210> 214
<211> 17
<212> PRT
<213> Homo sapiens

<400> 214
Gly Asp Ser Trp Asn Asp Arg Leu Asn Tyr Tyr Phe Tyr Asp Met Asp
1 5 10 15

Val

<210> 215
<211> 36
<212> DNA
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<400> 215
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<210> 216
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<212> PRT
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<400> 216

Glu Val Gly Ser Ser Ser Gly Asn Trp Phe Asp Pro
1 5 10

<210> 217
<211> 45
<212> DNA
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<400> 217
gaggtccggg cgtatagcag tggctggtac gccgcctttg actac 45

<210> 218
<211> 15
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<400> 218
Glu Val Arg Ala Tyr Ser Ser Gly Trp Tyr Ala Ala Phe Asp Tyr
1 5 10 15

<210> 219
<211> 48
<212> DNA
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<400> 219
gtaagaagtg ggagctacta cgaacagtat tactacggta tggacgtc 48

<210> 220
<211> 16
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1 5 10 15

<210> 221
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<400> 221
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<210> 222
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<212> PRT
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<400> 222
Ser Gly Ile Tyr Tyr Asp Tyr Tyr Gly Met Asp Val

1 5 10

<210> 223
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<212> DNA
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<400> 223
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<210> 224
<211> 16
<212> PRT
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<400> 224
Gly Ala Ala Thr Ala Ile Asp Tyr Tyr Tyr Ser Tyr Gly Met Asp Val
1 5 10 15

<210> 225
<211> 48
<212> DNA
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<400> 225
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<210> 226
<211> 16
<212> PRT
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<400> 226
Gly Gly Gly Ile Pro Val Ala Asp Tyr Tyr Tyr Tyr Gly Met Asp Val
1 5 10 15

<210> 227
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<212> DNA
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<400> 227
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<210> 228
<211> 16
<212> PRT
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<400> 228
Gly Gly Gly Ile Ala Val Ala Asp Tyr Tyr Phe Tyr Gly Met Asp Val
1 5 10 15

<210> 229
<211> 48
<212> DNA
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<210> 230
<211> 16
<212> PRT
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<400> 230
Gly Gly Gly Ile Ala Val Ala Asp Tyr Tyr Tyr Tyr Gly Met Asp Val
1 5 10 15

<210> 231
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<212> DNA
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<400> 231
gatagtacaa ctatggccca ctttgactac 30

<210> 232
<211> 10
<212> PRT
<213> Homo sapiens

<400> 232
Asp Ser Thr Thr Met Ala His Phe Asp Tyr
1 5 10

<210> 233
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<212> DNA
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<400> 233
gatctcaact ggggagcttt tgatatc 27

<210> 234
<211> 9
<212> PRT
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<400> 234
Asp Leu Asn Trp Gly Ala Phe Asp Ile
1 5

<210> 235
<211> 36
<212> DNA
<213> Homo sapiens

<400> 235
ggagacagct cgaactacta ctccggtatg gacgtc 36

<210> 236
<211> 12
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<400> 236
Gly Asp Ser Ser Asn Tyr Tyr Ser Gly Met Asp Val
1 5 10

<210> 237
<211> 30
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<400> 237
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<210> 238
<211> 10
<212> PRT
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<400> 238
Gly Asn Trp Asn Asp Asp Ala Phe Asp Ile
1 5 10

<210> 239
<211> 48
<212> DNA
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<400> 239
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<210> 240
<211> 16
<212> PRT
<213> Homo sapiens

<400> 240
Met Gly Phe Thr Met Val Arg Gly Ala Leu Tyr Tyr Gly Met Asp Val
1 5 10 15

<210> 241
<211> 30
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<400> 241
ccgagatatt ttgactggtt attaggcgac 30

<210> 242
<211> 10
<212> PRT
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<400> 242
Arg Pro Tyr Phe Asp Trp Leu Leu Gly Asp
1 5 10

<210> 243
<211> 42
<212> DNA
<213> Homo sapiens

<400> 243
ggcgcccacg actacggtga cttctactac ggtatggacg tc 42

<210> 244
<211> 39
<212> DNA
<213> Homo sapiens

<400> 244
gatcgggagg gagcgacttg gtactacggt atggacgtc 39

<210> 245
<211> 13
<212> PRT
<213> Homo sapiens

<400> 245
Asp Arg Glu Gly Ala Thr Trp Tyr Tyr Gly Met Asp Val
1 5 10

<210> 246
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES

<222> (7)..(7)
<223> Val or Ile

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Asn or Asp

<400> 246
Arg Ser Ser Gln Ser Leu Xaa Tyr Ser Asp Gly Xaa Thr Tyr Leu Asn
1 5 10 15

<210> 247
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Tyr or Asn

<400> 247
Lys Val Ser Xaa Trp Asp Ser
1 5

<210> 248
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<400> 248
Met Gln Gly Thr His Gln Pro Pro Ala
1 5

<210> 249
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (5)..(5)

<223> Gly or Ser

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Leu or Ile

<400> 249
Arg Ala Ser Gln Xaa Xaa Ser Ser Trp Leu Ala
1 5 10

<210> 250
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Asn or Thr

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Thr or Ala

<400> 250
Xaa Xaa Ser Ser Leu Gln Ser
1 5

<210> 251
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Asn or Asp

<400> 251
Gln Gln Ala Xaa Ser Phe Pro Leu Thr
1 5

<210> 252
<211> 7
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Lys or Asn

<400> 252
Gln Asp Xaa Lys Arg Pro Ser
1 5

<210> 253
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Ser or Asn

<400> 253
Xaa Tyr Gly Met His
1 5

<210> 254
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Tyr or Phe

<400> 254
Val Ile Trp Xaa Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 255
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Pro or Ala

<220>
<221> MOD_RES
<222> (11)..(11)
<223> Tyr or Phe

<400> 255
Gly Gly Gly Ile Xaa Val Ala Asp Tyr Tyr Xaa Tyr Gly Met Asp Val
1 5 10 15

<210> 256
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Tyr or Asn

<400> 256
Val Ile Ser Tyr Asp Gly Ser Xaa Lys Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 257
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES

<222> (1)..(1)
<223> Asp or Gly

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Tyr or Asp

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Tyr or His

<400> 257
Xaa Xaa Tyr Met Xaa
1 5

<210> 258
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus sequence

<220>
<221> MOD_RES
<222> (11)..(11)
<223> Tyr or His

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Val or Ala

<220>
<221> MOD_RES
<222> (13)..(13)
<223> Gln or Arg

<400> 258
Trp Ile Asn Pro Asn Ser Gly Gly Thr Asn Xaa Xaa Xaa Lys Phe Gln
1 5 10 15

Gly

<210> 259
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic consensus

sequence

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Gly or Arg

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Ser or Thr

<220>
<221> MOD_RES
<222> (11)..(11)
<223> Ala or Asp

<400> 259
Asp Xaa Gly Xaa Ser Gly Trp Pro Leu Phe Xaa Tyr
1 5 10

<210> 260
<211> 363
<212> DNA
<213> Homo sapiens

<400> 260
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cgtctggatt caccttcagt aactatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtat attactgtgc gagtctagtg 300

ggagctacca actactacgg tatggacgtc tggggccaag ggaccacggt caccgtctcc 360

tca 363

<210> 261
<211> 121
<212> PRT
<213> Homo sapiens

<400> 261
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val

35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Leu Val Gly Ala Thr Asn Tyr Tyr Gly Met Asp Val Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 262
<211> 326
<212> DNA
<213> Homo sapiens

<400> 262
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acatgccaag gagacagcct cagaagctat tatgcaagct ggtaccagca gaagccagga 120

caggcccctg tacttgtcat ctctggtaaa aactaccggc cctcagggat cccagaccga 180

ttctctggct ccagctcagg aaacacagct tccttgacca tcactggggc tcaggcggaa 240

gatgaggctg actactactg taactcccgg gacagaagtg gtaaccatct ggtgttttcg 300

gcggagggac caagctgacc gtccta 326

<210> 263
<211> 108
<212> PRT
<213> Homo sapiens

<400> 263
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala
20 25 30

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Ser
35 40 45

Gly Lys Asn Tyr Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Arg Asp Arg Ser Gly Asn His
85 90 95

Leu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 264
<211> 360
<212> DNA
<213> Homo sapiens

<400> 264
gaagtgcagc tggtggagtc tgggggagtc gtggtacagc ctgggggGTC cctgagactc 60

tcctgtgcag cctctggatt cacctttgat gattttacca tgcactgggt ccgtcaagct 120

ccggggaagg gtctggagtg ggtctctctt attagttggg atggtggtag cacatactat 180

gcagactctg tgaagggccg attcaccatc tccagagaca acagcaaaaa ctccctgtat 240

atgcaaatga acagtctgag aactgaggac agcgccttgt attactgtgc aagaggtcct 300

tactactact tctacggtat ggacgtctgg ggccaaggga ccacggtcac cgtctcctca 360

<210> 265
<211> 120
<212> PRT
<213> Homo sapiens

<400> 265
Glu Val Gln Leu Val Glu Ser Gly Gly Val Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Phe
20 25 30

Thr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Leu Ile Ser Trp Asp Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Ser Leu Tyr
65 70 75 80

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

Ala Arg Gly Pro Tyr Tyr Tyr Phe Tyr Gly Met Asp Val Trp Gly Gln
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 266
<211> 328
<212> DNA
<213> Homo sapiens

<400> 266
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acatgccaag gagacagcct cagaacctat tatgcaagct ggtaccagca gaagccagga 120

caggccccta tacttgtcat ctctgataaa aacaaccggc cctcagggat cccagaccga 180

ttctctggct ccagctcagg aaacacagct tccttgacca tcactggggc tcaggcggaa 240

gatgaggctg actattactg taactcccgg gacagcagtg ataaccatct agtggtattt 300

cggcggaggg accaagctga ccgtccta 328

<210> 267
<211> 109
<212> PRT
<213> Homo sapiens

<400> 267
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Thr Tyr Tyr Ala
20 25 30

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Ile Leu Val Ile Ser
35 40 45

Asp Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Arg Asp Ser Ser Asp Asn His
85 90 95

Leu Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 268
<211> 363
<212> DNA
<213> Homo sapiens

<400> 268
caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60

tcctgcaagg cttctggata caccttcacc gactactata tgtactgggt gcgacaggcc 120

cctggacaag ggcctgagtg gatgggatgg atcaacccta acagtggtgg cacaaactat 180

gtacagaagt ttcagggcag ggtcaccatg accagggaca cgtccatcag cacagcctac 240

atggagctga gcaggatgag atccgacgac acggccgtgt attactgtgc gagagatggg 300

ggtagcagtg gctggcccct ctttgcctac tggggcctgg gaaccctggt caccgtctcc 360

tca 363

<210> 269
<211> 121
<212> PRT
<213> Homo sapiens

<400> 269
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Pro Glu Trp Met
35 40 45

Gly Trp Ile Asn Pro Asn Ser Gly Gly Thr Asn Tyr Val Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

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Met Glu Leu Ser Arg Met Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Ala Arg Asp Gly Gly Ser Ser Gly Trp Pro Leu Phe Ala Tyr Trp Gly
            100                 105                 110

Leu Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 270
<211> 340
<212> DNA
<213> Homo sapiens

<400> 270
cagtctgtgc tgacgcagcc gccctcagtg tctggggccc cagggcagag ggtcaccatc 60

tcctgcactg ggagcagctc caacatcggg gcaggttttg atgtacactg gtaccagcag 120

cttccaggaa cagcccccaa actcctcatc tatgataaca acaatcggcc ctcaggggtc 180

cctgaccgat tctctggctc caagtctggc acctcagcct ccctggccat cactgggctc 240

caggctgagg atgaggctga ttattactgc cagtcctatg acagcaacct gagtggttcg 300

attgtggttt ttcggcggag ggaccaagct gaccgtccta 340

<210> 271
<211> 113
<212> PRT
<213> Homo sapiens

<400> 271

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Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ala Gly
            20                  25                  30

Phe Asp Val His Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Asp Asn Asn Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
    50                  55                  60

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
65                  70                  75                  80
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Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Asn
85 90 95

Leu Ser Gly Ser Ile Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val
100 105 110

Leu

<210> 272
<211> 363
<212> DNA
<213> Homo sapiens

<400> 272
caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60

tcctgcaagg cttctggata catcttcacc ggcgactata tgcactgggt gcgacaggcc 120

cctggacaag ggctggagtg gatgggatgg atcaacccta acagtggtgg cacaaaccat 180

gcacggaagt ttcagggcag ggtcaccatg accagggaca cgtccatcag cacagcctac 240

atggagctga gcaggctgag atctgacgac acggccgtgt attactgtgt gagagatagg 300

ggtaccagtg gctggccact ctttgactat tggggccagg gaacactggt caccgtctcc 360

tca 363

<210> 273
<211> 121
<212> PRT
<213> Homo sapiens

<400> 273
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Gly Asp
20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Pro Asn Ser Gly Gly Thr Asn His Ala Arg Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Val Arg Asp Arg Gly Thr Ser Gly Trp Pro Leu Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 274
<211> 340
<212> DNA
<213> Homo sapiens

<400> 274
cagtctgtgc tgacgcagcc gccctcagtg tctggggccc cagggcagag ggtcaccatc 60

tcctgcactg ggagcagctc caacatcggg gcaggttttg atgtgcactg gtaccagctg 120

cttccaggaa cagcccccaa actcctcatc tttgataaca acaatcgccc ctcaggggtc 180

cctgaccgat tctctggctc caagtctggc acctcagcct ccctggccat cactgggctc 240

caggctgagg atgaggctga ttattactgc cagtcctatg acagcaacct gagtggttcg 300

attgtggtat ttcggcggag ggaccaagct gaccgtccta 340

<210> 275
<211> 113
<212> PRT
<213> Homo sapiens

<400> 275
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ala Gly
20 25 30

Phe Asp Val His Trp Tyr Gln Leu Leu Pro Gly Thr Ala Pro Lys Leu
35 40 45

Leu Ile Phe Asp Asn Asn Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Asn
85 90 95

Leu Ser Gly Ser Ile Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val
100 105 110

Leu

<210> 276
<211> 378
<212> DNA
<213> Homo sapiens

<400> 276
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cctctggatt cattttcagt agctatggca ttcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtta taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agctgaggac acggctgtgt attactgtgc gagaggggac 300

tcctggaacg acagattaaa ctactacttc tacgatatgg acgtctgggg ccaagggacc 360

acggtcaccg tctcctca 378

<210> 277
<211> 126
<212> PRT
<213> Homo sapiens

<400> 277
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ile Phe Ser Ser Tyr
20 25 30

Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Gly Asp Ser Trp Asn Asp Arg Leu Asn Tyr Tyr Phe Tyr Asp
            100                 105                 110

Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120                 125
```

<210> 278
<211> 319
<212> DNA
<213> Homo sapiens

<400> 278
tcctatgagc tgactcaggc accctcagtg tccgtgtccc caggacagac agccagcatc 60

acctgctctg gagataaatt gggggataaa tatgcttgct ggtatcagca gaagccaggc 120

cagtcccctg tgctggtcat ctatcaagat aagaagcggc cctcagggat ccctgagcga 180

ttctctggct ccaactctgg gaacacagcc actctgacca tcagcgggac ccaggctatg 240

gatgaggctg actattactg tcaggcgtgg gacagcagca ctgtggtatt tcggcggagg 300

gaccaagctg accgtccta 319

<210> 279
<211> 106
<212> PRT
<213> Homo sapiens

<400> 279

```
Ser Tyr Glu Leu Thr Gln Ala Pro Ser Val Ser Val Ser Pro Gly Gln
1               5                   10                  15

Thr Ala Ser Ile Thr Cys Ser Gly Asp Lys Leu Gly Asp Lys Tyr Ala
            20                  25                  30

Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
        35                  40                  45

Gln Asp Lys Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
    50                  55                  60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Met
65                  70                  75                  80
```

Asp Glu Ala Asp Tyr Tyr Cys Gln Ala Trp Asp Ser Ser Thr Val Val
85 90 95

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 280
<211> 366
<212> DNA
<213> Homo sapiens

<400> 280
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60

acctgcactg tctctggtgg ctccatcagc agtggtggtt actactggag ctggatccgc 120

cagcacccag ggaagggcct ggagtggatt gggttcatcc attacagtgg gaccacctac 180

tacaacccgt ccctcaagag tcgacttacc ctatcagtag acacgtctaa gagccagttc 240

tccctgaagc tgaactctgt gactgccgcg gacacggccg tgtattactg tgcgagagaa 300

gttggcagct cgtcgggtaa ctggttcgac ccctggggcc agggaaccct ggtcaccgtc 360

tcctca 366

<210> 281
<211> 122
<212> PRT
<213> Homo sapiens

<400> 281
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
20 25 30

Gly Tyr Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu
35 40 45

Trp Ile Gly Phe Ile His Tyr Ser Gly Thr Thr Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Ser Arg Leu Thr Leu Ser Val Asp Thr Ser Lys Ser Gln Phe
65 70 75 80

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

```
Cys Ala Arg Glu Val Gly Ser Ser Ser Gly Asn Trp Phe Asp Pro Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 282
<211> 319
<212> DNA
<213> Homo sapiens

<400> 282
tcctatgagc tgactcagcc accctcagtg tccgtgtccc caggacagac agccagcatc 60

acctgctctg gagataaatt gggggataaa tatgcttgct ggtatcagca gaagccaggc 120

cagtcccctg tggtggtcat ctatcaagat aacaagcggc cctcagggat ccctgagcga 180

ttctctggct ccaactctgg gaacacagcc actttgacca tcagcgggac ccaggctatg 240

gatgaggctg actattactg tcaggcgtgg gacagcacca ctgcgatatt tcggcggagg 300

gaccaagctg accgtccta 319

<210> 283
<211> 106
<212> PRT
<213> Homo sapiens

<400> 283

```
Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
1               5                   10                  15

Thr Ala Ser Ile Thr Cys Ser Gly Asp Lys Leu Gly Asp Lys Tyr Ala
            20                  25                  30

Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Val Val Ile Tyr
        35                  40                  45

Gln Asp Asn Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
    50                  55                  60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Met
65                  70                  75                  80

Asp Glu Ala Asp Tyr Tyr Cys Gln Ala Trp Asp Ser Thr Thr Ala Ile
                85                  90                  95
```

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 284
<211> 378
<212> DNA
<213> Homo sapiens

<400> 284
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agctatggca ttcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agctgaggac acggctgtgt attactgtgc gagaggggac 300

tcctggaacg acagattaaa ctactacttc tacgatatgg acgtctgggg ccaagggacc 360

acggtcaccg tctcctca 378

<210> 285
<211> 126
<212> PRT
<213> Homo sapiens

<400> 285
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Gly Asp Ser Trp Asn Asp Arg Leu Asn Tyr Tyr Phe Tyr Asp
100 105 110

Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 286
<211> 319
<212> DNA
<213> Homo sapiens

<400> 286
tcctatgagc tgactcagcc accctcagtg tccgtgtccc caggacagac agccagcatc 60

acctgctctg gagataaatt gggggataaa tatgcttgct ggtatcagca gaagccaggc 120

cagtcccctg tactggtcat ctatcaagat aacaagcggc cctcagggat ccctgagcga 180

ttctctggct ccaactctgg gaacacagcc actttgacca tcagcgggac ccaggctatg 240

gatgaggctg actattactg tcaggcgtgg gacagcagca ctgtggtatt tcggcggagg 300

gaccaagctg accgtccta 319

<210> 287
<211> 106
<212> PRT
<213> Homo sapiens

<400> 287
Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
1 5 10 15

Thr Ala Ser Ile Thr Cys Ser Gly Asp Lys Leu Gly Asp Lys Tyr Ala
20 25 30

Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
35 40 45

Gln Asp Asn Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Met
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Ala Trp Asp Ser Ser Thr Val Val
85 90 95

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 288
<211> 372
<212> DNA
<213> Homo sapiens

<400> 288
caggtgcagt tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cgtctggata taccttcaat agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa tacatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca tttccaagaa cactctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagaggtc 300

cgggcgtata gcagtggctg gtacgccgcc tttgactact ggggccaggg aaccctggtc 360

accgtctcct ca 372

<210> 289
<211> 124
<212> PRT
<213> Homo sapiens

<400> 289
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Asn Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Ile Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Glu Val Arg Ala Tyr Ser Ser Gly Trp Tyr Ala Ala Phe Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 290
<211> 325
<212> DNA
<213> Homo sapiens

<400> 290
tcttctgagc tgactcagga ccctgctgtg tctgtggcct tgggacagac agtcaggatc 60

acatgccaag gagacagcct cagaatcttt tatgcaaact ggtaccagca gaagccagga 120

caggcccctg tagttgtctt ctatggtaaa aacaaccggc cctcagggat cccagaccga 180

ttctctggct ccagctcagg aaacacagct tccttgacca tcactgcggc tcaggcggaa 240

gatgaggctg actattattg taactcccgg gacagcagtg gtaaccatgt ggtatttcgg 300

cggagggacc acgctgaccg tccta 325

<210> 291
<211> 108
<212> PRT
<213> Homo sapiens

<400> 291
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ile Phe Tyr Ala
20 25 30

Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Val Val Phe Tyr
35 40 45

Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Ala Ala Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Arg Asp Ser Ser Gly Asn His
85 90 95

Val Val Phe Gly Gly Gly Thr Thr Leu Thr Val Leu
100 105

<210> 292
<211> 375
<212> DNA
<213> Homo sapiens

<400> 292
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcaa cgtctggatt caccttcagt agttatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtag taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggccgtgt attactgtgc gagagtaaga 300

agtgggagct actacgaaca gtattactac ggtatggacg tctggggcca agggaccacg 360

gtcgccgtct cctca 375

<210> 293
<211> 125
<212> PRT
<213> Homo sapiens

<400> 293
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Ser Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Val Arg Ser Gly Ser Tyr Tyr Glu Gln Tyr Tyr Tyr Gly Met
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Ala Val Ser Ser
115 120 125

<210> 294
<211> 322
<212> DNA

<213> Homo sapiens

<400> 294
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60

atcacttgcc gggcaaatca gtacattagc acctatttaa attggtatca gcagaaacca 120

gggaaagccc ctaaggtcct gatttatgct gcatccagtt tgcaaagtgg ggtcccatca 180

aggttcagtg gcagtggatt tgagacagat ttcactctca ccatcagcag tctgcaacct 240

gaagattttg caacttacta ctgtcagcag agctacacta ccccgatcac ctttcggcca 300

agggacacga ctggagatta aa 322

<210> 295
<211> 107
<212> PRT
<213> Homo sapiens

<400> 295
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Gln Tyr Ile Ser Thr Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile
35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Phe Glu Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr Thr Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105

<210> 296
<211> 363
<212> DNA
<213> Homo sapiens

<400> 296
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agttatagca tgaactgggt ccgccaggct 120

ccagggaagg ggctggagtg ggtttcatac attagtggtc gtactagtag cgtatactac 180

gcagactctg tgaagggccg attcaccatc tccagagaca atgccaagaa ctcactgtat 240

ctgcacatga acagcctgag agacgaggac acggctgtgt attactgtgc gagaagtggg 300

atctactacg actactacgg tatggacgtc tggggccaag ggaccacggt caccgtctcc 360

tca 363

<210> 297
<211> 121
<212> PRT
<213> Homo sapiens

<400> 297
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu His Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Gly Ile Tyr Tyr Asp Tyr Tyr Gly Met Asp Val Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 298
<211> 340
<212> DNA
<213> Homo sapiens

<400> 298
gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccccc 60

atcaactgca agtccagcca gagtgtttta aacagctcca acaataagaa ctacttagct 120

tggtaccagc agaaaccagg acagcctcct aagctgctca tttactggac atccacccgg 180

gaaggcgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240

atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcagta ttttactact 300

ccgtggacgt ttcggccaag ggaccaaggt ggagatcaaa 340

<210> 299
<211> 113
<212> PRT
<213> Homo sapiens

<400> 299
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Pro Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Asn Ser
20 25 30

Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45

Pro Pro Lys Leu Leu Ile Tyr Trp Thr Ser Thr Arg Glu Gly Gly Val
50 55 60

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
85 90 95

Tyr Phe Thr Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
100 105 110

Lys

<210> 300
<211> 375
<212> DNA
<213> Homo sapiens

<400> 300
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagaggggca 300

gccactgcta tagattacta ctactcctac ggtatggacg tctggggcct agggaccacg 360

gtcaccgtct cctca 375

<210> 301
<211> 125
<212> PRT
<213> Homo sapiens

<400> 301
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Gly Ala Ala Thr Ala Ile Asp Tyr Tyr Tyr Ser Tyr Gly Met
100 105 110

Asp Val Trp Gly Leu Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 302
<211> 322
<212> DNA
<213> Homo sapiens

<400> 302
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtgggaga cagagtcacc 60

atcacttgtc gggcgagtca gggtattagt agctggttag cctggtatca gcggaaacca 120

ggaaaagccc ctaagttcct gatctatact gcatccagtt tgcaaagtgg ggtcccatca 180

cggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattctg caacttacta ttgtcaacag gctgacagtt tcccgctcac ttttcggcgg 300

agggaccaag gtggagatca aa 322

<210> 303
<211> 107
<212> PRT
<213> Homo sapiens

<400> 303
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Arg Lys Pro Gly Lys Ala Pro Lys Phe Leu Ile
35 40 45

Tyr Thr Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Ser Ala Thr Tyr Tyr Cys Gln Gln Ala Asp Ser Phe Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 304
<211> 375
<212> DNA
<213> Homo sapiens

<400> 304
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagaggggg 300

ggtataccag tagctgacta ctactactac ggtatggacg tctggggcca agggaccacg 360

gtcaccgtct cctca 375

<210> 305
<211> 125
<212> PRT
<213> Homo sapiens

<400> 305
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Gly Gly Gly Ile Pro Val Ala Asp Tyr Tyr Tyr Tyr Gly Met
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 306
<211> 337
<212> DNA
<213> Homo sapiens

<400> 306
gatgttgtga tgactcagtc tccactctcc ctgcccgtca cccttggaca gccggcctcc 60

atctcctgca ggtctagtca aagcctcgtc tacagtgatg gagacaccta cttgaattgg 120

tttcagcaga ggccaggcca atctccaagg cgcctaattt ataaggtttc taactgggac 180

tctggggtcc catacagatt cagcggcagt gggtcaggca ctgatttcac actgcaaatc 240

agcagggtgg aggctgagga tgttgggatt tactactgca tgcaaggtac acactggcct 300

ccggcctttc ggccaaggga cacgactgga gattaaa 337

<210> 307
<211> 112
<212> PRT
<213> Homo sapiens

<400> 307
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val Tyr Ser
20 25 30

Asp Gly Asp Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Trp Asp Ser Gly Val Pro
50 55 60

Tyr Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Gln Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Ile Tyr Tyr Cys Met Gln Gly
85 90 95

Thr His Trp Pro Pro Ala Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105 110

<210> 308
<211> 322
<212> DNA
<213> Homo sapiens

<400> 308
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60

atcacttgtc gggcgagtca gggtcttagc agctggttag cctggtatca gcagaaacca 120

gggaaagccc ccaagctcct gatgtataac acatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcagtctca ccatcagcag cctgcagcct 240

gaagattttg caagttacta ttgtcaacag gctaacagtt tccctctcac ttttcggcgg 300

agggaccaag gtggagatca aa 322

<210> 309
<211> 107
<212> PRT
<213> Homo sapiens

<400> 309
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Leu Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Met
35 40 45

Tyr Asn Thr Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Ser Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Ser Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 310
<211> 337
<212> DNA
<213> Homo sapiens

<400> 310
gatgttgtga tgactcagtc tccactctcc ctgcccgtca cccttggaca gccggcctcc 60

atctcctgca ggtctagtca aagcctcgtc tacagtgatg gaaacaccta cttgaattgg 120

tttcagcaga ggccaggcca atctccaagg cgcctaattt ataaggtttc taactgggac 180

tctggggtcc cagacagatt cagcggcatt gggtcaggca ctgacttcac actgaaaatc 240

agcagggtgg aggctgagga tgttggggtt tactactgca tgcaaggtac acactggcct 300

ccggcctttc ggccaaggga cacgactgga gattaaa 337

<210> 311
<211> 112

<212> PRT
<213> Homo sapiens

<400> 311
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val Tyr Ser
20 25 30

Asp Gly Asn Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Trp Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ile Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Gly
85 90 95

Thr His Trp Pro Pro Ala Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105 110

<210> 312
<211> 322
<212> DNA
<213> Homo sapiens

<400> 312
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60

atcacttgtc gggcgagtca gggtcttagc agctggttag cctggtatca gcagaaacca 120

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aggttcagcg gcagtggatc tgggacagat ttcagtctca ccatcagcag cctgcagcct 240

gaagattttg caagttacta ttgtcaacag gctaacagtt tccctctcac ttttcggcgg 300

agggaccaag gtggagatca aa 322

<210> 313
<211> 375
<212> DNA
<213> Homo sapiens

<400> 313
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tcctgtgcag cgtctggatt ccccttcagt aactatggca tgcactgggt ccgccaggct 120

ccaggcaagg gactggaatg ggtggcagtt atatggtttg atggaagtaa taaatactat 180

gcggactccg tgaagggccg attcaccatc tccagagaca atcccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagaggggg 300

ggtatagcag tggctgacta ctacttctac ggtatggacg tctggggcca agggaccacg 360

gtcaccgtct cctca 375

<210> 314
<211> 125
<212> PRT
<213> Homo sapiens

<400> 314
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Lys
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Pro Phe Ser Asn Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Trp Phe Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Pro Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Gly Gly Gly Ile Ala Val Ala Asp Tyr Tyr Phe Tyr Gly Met
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 315
<211> 337
<212> DNA
<213> Homo sapiens

<400> 315

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atctcctgca ggtctagtca aagcctcata tacagtgatg gaaacactta cttgaattgg 120

tttcaacaga ggccaggcca atctccaagg cgcctaattt ataaggtttc taactgggac 180

tctggggtcc cagacagatt cagcggcagt gggtcaggca ctgatttcac actgaaaatc 240

agcagggtgg aggctgagga tgttgggatt tattactgca tgcaaggtac acactggcct 300

ccggcctttc ggccaaggga cacgactgga gattaaa 337

<210> 316
<211> 112
<212> PRT
<213> Homo sapiens

<400> 316
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Ile Tyr Ser
20 25 30

Asp Gly Asn Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Trp Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Ile Tyr Tyr Cys Met Gln Gly
85 90 95

Thr His Trp Pro Pro Ala Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105 110

<210> 317
<211> 322
<212> DNA
<213> Homo sapiens

<400> 317
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60

attacttgtc gggcgagtca gggtattagc agctggttag cctggtatca gcagaaacca 120

gggaaagccc ctaaggtcct gacctatact acatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattttg ctacttactt ttgtcaacag gctgacagtt tccctctcac ttttcggcgg 300

ggggaccaag gtggagatca aa 322

<210> 318
<211> 107
<212> PRT
<213> Homo sapiens

<400> 318
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Thr
35 40 45

Tyr Thr Thr Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ala Asp Ser Phe Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 319
<211> 375
<212> DNA
<213> Homo sapiens

<400> 319
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tcctgtgcag cgtctggatt caccttcagt aactatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagaggggggg 300

ggtatagcag tggctgacta ctactactac ggtatggacg tctggggcca agggaccacg 360

gtcaccgtct cctca 375

<210> 320
<211> 125
<212> PRT
<213> Homo sapiens

<400> 320
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Gly Gly Gly Ile Ala Val Ala Asp Tyr Tyr Tyr Tyr Gly Met
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 321
<211> 337
<212> DNA
<213> Homo sapiens

<400> 321
gatgttgtga tgactcagtc tccactctcc ctgcccgtca cccttggaca gccggcctcc 60

atctcctgca ggtctagtca aagcctcgta tacagtgatg gaaacaccta cttgaattgg 120

tttcagcaga ggccaggcca atctccaagg cgcctaattt ataaggtttc ttactgggac 180

tctggggtcc cagacagatt cagcggcagt gggtcaagca ctgatttcac actgaaaatc 240

agtagggtgg aggctgagga tgttggggtt tattactgca tgcaaggtac acactggcct 300

ccggcctttc ggccaaggga cacgactgga gattaaa 337

<210> 322
<211> 112
<212> PRT
<213> Homo sapiens

<400> 322
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val Tyr Ser
20 25 30

Asp Gly Asn Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Lys Val Ser Tyr Trp Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Ser Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Gly
85 90 95

Thr His Trp Pro Pro Ala Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105 110

<210> 323
<211> 322
<212> DNA
<213> Homo sapiens

<400> 323
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60

atcacttgtc gggcgagtca gagtcttagc agctggttag cctggtatca gcagaaacca 120

gggaaagccc ctaaactcct gctccataat gcatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattttg taaattacta ttgtcaacag gctaacagtt tccctctcac ttttcggcgg 300

agggaccagg gtggagatca aa 322

<210> 324

<211> 107
<212> PRT
<213> Homo sapiens

<400> 324
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Leu Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Leu
35 40 45

His Asn Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Val Asn Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Arg Val Glu Ile Lys
100 105

<210> 325
<211> 357
<212> DNA
<213> Homo sapiens

<400> 325
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tcctgtgcag cgtctggatt caccttaagt agttatggca tgctctgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt ttatggtttg atggaagtta taaaaactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg agccgaggac acggctgtgt attactgtgc gagagatagt 300

acaactatgg cccactttga ctactggggc cagggaaccc tggtcaccgt ctcctca 357

<210> 326
<211> 119
<212> PRT
<213> Homo sapiens

<400> 326

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Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Leu Ser Ser Tyr
            20                  25                  30

Gly Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Val Leu Trp Phe Asp Gly Ser Tyr Lys Asn Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

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

Ala Arg Asp Ser Thr Thr Met Ala His Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser
        115
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<210> 327
<211> 331
<212> DNA
<213> Homo sapiens

<400> 327
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acttgtggct tgaactctgg ctcagtctct actagttact tccccagctg gtaccagcag 120

accccaggcc aggctccacg cacgctcatc tacagcacaa acagtcgctc ttctggggtc 180

cctgatcgct tctctggctc catccttggg aacaaagctg ccctcaccat cacggggcc 240

caggcagatg atgaatctga ttattactgt gtgctgtata tgggtagagg catttgggtg 300

tttcggcgga gggaccaagc tgaccgtcct a 331

<210> 328
<211> 110
<212> PRT
<213> Homo sapiens

<400> 328
Gln Thr Val Val Thr Gln Glu Pro Ser Phe Ser Val Ser Pro Gly Gly

1 5 10 15

Thr Val Thr Leu Thr Cys Gly Leu Asn Ser Gly Ser Val Ser Thr Ser
20 25 30

Tyr Phe Pro Ser Trp Tyr Gln Gln Thr Pro Gly Gln Ala Pro Arg Thr
35 40 45

Leu Ile Tyr Ser Thr Asn Ser Arg Ser Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Ile Leu Gly Asn Lys Ala Ala Leu Thr Ile Thr Gly Ala
65 70 75 80

Gln Ala Asp Asp Glu Ser Asp Tyr Tyr Cys Val Leu Tyr Met Gly Arg
85 90 95

Gly Ile Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 329
<211> 337
<212> DNA
<213> Homo sapiens

<400> 329
gatgttgtga tgactcagtc tccactctcc ctgcccgtca cccttggaca gccggcctcc 60

atctcctgca ggtctagtca aagcctcgta tacagtgatg gaaacaccta cttgaattgg 120

tttcagcaga ggccaggcca atctccaagg cgcctaattt ataaggtttc ttactgggac 180

tctggggtcc cagacagatt cagcggcagt gggtcaggca ctgatttcac actgaaaatc 240

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ccggcctttc ggccaaggga cacgactgga gatcaaa 337

<210> 330
<211> 112
<212> PRT
<213> Homo sapiens

<400> 330
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val Tyr Ser
20 25 30

Asp Gly Asn Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Lys Val Ser Tyr Trp Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Gly
85 90 95

Thr His Trp Pro Pro Ala Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105 110

<210> 331
<211> 322
<212> DNA
<213> Homo sapiens

<400> 331
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60

atcacttgtc gggcgagtca gagtcttagc agctggttag cctggtatca gcagaaacca 120

gggaaagccc ctaaactcct gctctataat gcatccagtt tgcaaagtgg ggccccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattttg taacttacta ttgtcaacag gctaacagtt tccctctcac ttttcggcgg 300

agggaccagg gtggagatca aa 322

<210> 332
<211> 107
<212> PRT
<213> Homo sapiens

<400> 332
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Leu Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Leu
35 40 45

Tyr Asn Ala Ser Ser Leu Gln Ser Gly Ala Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Val Thr Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Arg Val Glu Ile Lys
100 105

<210> 333
<211> 322
<212> DNA
<213> Homo sapiens

<400> 333
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atcacttgtc gggcgagtca gggtcttagc agctggttag cctggtatca gcagaaacca 120

gggaaagccc ccaagctcct gatgtataac acatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcagtctca ccatcagcag cctgcagcct 240

gaagattttg caagttacta ttgtcaacag gctaacagtt tccctctcac ttttcggcgg 300

agggaccaag gtggagatca aa 322

<210> 334
<211> 354
<212> DNA
<213> Homo sapiens

<400> 334
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tcctgtgcag cctctggatt cacctttagc agctatgcca tgagctgggt ccgccaggct 120

ccagggaagg ggctggagtg ggtctcagca attagtggta gtggtggaag tacacactac 180

gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtgc gaaagatctc 300

aactggggag cttttgatat ctggggccaa gggacaatgg tcaccgtctc ttca 354

<210> 335
<211> 118
<212> PRT

<213> Homo sapiens

<400> 335

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

<210> 336
<211> 337
<212> DNA
<213> Homo sapiens

<400> 336

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tcctgcactg ggagcagctc caacattggg gcgggttatg ttgtacattg gtaccagcag 120

cttccaggaa cagcccccaa actcctcatc tatggtaaca gcaatcggcc ctcaggggtc 180

cctgaccaat tctctggctc caagtctggc acctcagcct ccctggccat cactggactc 240

cagtctgagg atgaggctga ttattactgc aaagcatggg ataacagcct gaatgctcaa 300

ggggtatttc ggcggaggga ccaagctgac cgtccta 337

<210> 337
<211> 112
<212> PRT
<213> Homo sapiens

<400> 337
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ala Gly
20 25 30

Tyr Val Val His Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
35 40 45

Leu Ile Tyr Gly Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Gln Phe
50 55 60

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
65 70 75 80

Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Lys Ala Trp Asp Asn Ser
85 90 95

Leu Asn Ala Gln Gly Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 338
<211> 363
<212> DNA
<213> Homo sapiens

<400> 338
gaggtgcagc tgttggagtc tgggggaggc ttggcacagc cgggggggtc cctgagactc 60

tcctgtgcag gctctggatt ctcctttaga ggctatgtca tgacttgggt ccgccaggct 120

ccagggaagg ggctggagtg ggtctcagga attagtggta gtggtggtag cacatactac 180

gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtgt 240

ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtgc gaaaggagac 300

agctcgaact actactccgg tatggacgtc tggggccaag ggaccacggt catcgtctcc 360

tca 363

<210> 339
<211> 121
<212> PRT
<213> Homo sapiens

<400> 339
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Ala Gln Pro Gly Gly

1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Ser Phe Arg Gly Tyr
20 25 30

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

Ser Gly Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Cys
65 70 75 80

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

Ala Lys Gly Asp Ser Ser Asn Tyr Tyr Ser Gly Met Asp Val Trp Gly
100 105 110

Gln Gly Thr Thr Val Ile Val Ser Ser
115 120

<210> 340
<211> 340
<212> DNA
<213> Homo sapiens

<400> 340
gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60

atcaactgca agtccagcca gagtgtttta tacaactcca acaataagaa ctacttagct 120

tggtaccagc agaaaccagg acagcctcct aagctgctca tttactgggc ttctacccgg 180

gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240

atcagcagcc tgcaggctga ggatgtggca atttattact gtcagcaatt ttatggtcct 300

cctctcactt ttcggcggag ggaccaaggt ggaaatcaaa 340

<210> 341
<211> 113
<212> PRT
<213> Homo sapiens

<400> 341
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

```
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Asn
            20                  25                  30

Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
        35                  40                  45

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

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65                  70                  75                  80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Ile Tyr Tyr Cys Gln Gln
                85                  90                  95

Phe Tyr Gly Pro Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
            100                 105                 110

Lys
```

<210> 342
<211> 357
<212> DNA
<213> Homo sapiens

<400> 342
caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60

tcctgcaagg cttctggata caccttcacc ggctactata tgcactgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggatgg atcaacccta acaatggtgg cacaaactat 180

ggacagaagt ttcagggcag ggtcaccatg accagggaca cgtccatcag cacagcctac 240

atggagctga gcaggctgag atctgacgac acggccgtgt attactgtgc gagagggaac 300

tggaacgacg atgcttttga tatctggggc caagggacaa tggtcaccgt ctcttca 357

<210> 343
<211> 119
<212> PRT
<213> Homo sapiens

<400> 343
```
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1               5                   10                  15
```

```
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gly Tyr
            20                  25                  30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
        35                  40                  45

Gly Trp Ile Asn Pro Asn Asn Gly Gly Thr Asn Tyr Gly Gln Lys Phe
    50                  55                  60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65                  70                  75                  80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Ala Arg Gly Asn Trp Asn Asp Asp Ala Phe Asp Ile Trp Gly Gln Gly
            100                 105                 110

Thr Met Val Thr Val Ser Ser
        115
```

<210> 344
<211> 322
<212> DNA
<213> Homo sapiens

<400> 344
tcctatgagc tgactcagtc accctcagtg tccgtgtccc caggacagac agccagcatc 60

acctgttctg gtgataaatt gggggataaa tttgctttct ggtatcagca gaagccaggc 120

cagtcccctg tgctggtcat ctatcaagat agcaagcggc cctcagggat ccctgagcga 180

ttctctggct ccaactctgg gaacacagcc actctgacca tcagcgggac ccaggctatg 240

gatgaggctg actattactg tcaggcgtgg gacagcagcg ccgggggggt atttcggcgg 300

agggaccaag ttgaccgtcc ta 322

<210> 345
<211> 107
<212> PRT
<213> Homo sapiens

<400> 345
```
Ser Tyr Glu Leu Thr Gln Ser Pro Ser Val Ser Val Ser Pro Gly Gln
1               5                   10                  15
```

Thr Ala Ser Ile Thr Cys Ser Gly Asp Lys Leu Gly Asp Lys Phe Ala
20 25 30

Phe Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
35 40 45

Gln Asp Ser Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Met
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Ala Trp Asp Ser Ser Ala Gly Gly
85 90 95

Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 346
<211> 375
<212> DNA
<213> Homo sapiens

<400> 346
caggtgcaac tggaggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gtagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagaatgggg 300

tttactatgg ttcggggagc cctctactac ggtatggacg tctggggcca agggaccacg 360

gtcaccgtct cctca 375

<210> 347
<211> 125
<212> PRT
<213> Homo sapiens

<400> 347
Gln Val Gln Leu Glu Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Met Gly Phe Thr Met Val Arg Gly Ala Leu Tyr Tyr Gly Met
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 348
<211> 325
<212> DNA
<213> Homo sapiens

<400> 348
tcttctgagc tgactcagga ccctgctgtg tctgtggcct tgggacagac agtcaggatc 60

acatgccaag gagacagcct cagaagctat catgcaagct ggtaccagca gaagccagga 120

caggcccctg tacttgtcat ctatggtgaa aacaaccggc cctcagggat cccagaccga 180

ttctctgact ccagttcagg aaacacagct tccttgacca tcactggggc tcaggcggaa 240

gatgaggctg actattattg taattatcgg gacaacagtg gtaaccatct ggtgtttcgg 300

cggagggacc aagctgaccg tccta 325

<210> 349
<211> 108
<212> PRT
<213> Homo sapiens

<400> 349
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr His Ala
20 25 30

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Gly Glu Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Asp Ser
50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Asn Tyr Arg Asp Asn Ser Gly Asn His
85 90 95

Leu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 350
<211> 357
<212> DNA
<213> Homo sapiens

<400> 350
gaggtgcagc tgttggaatc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60

tcctgtgcag cctctggatt cacctttagc agctatgcca tgagctgggt ccgccaggct 120

ccagggaagg ggctggagtg ggtctcagct attagtcgta gtggtagtac cacatactac 180

gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtgt ggaaccgaga 300

tattttgact ggttattagg cgactggggc cagggaaccc tggtcaccgt ctcctca 357

<210> 351
<211> 119
<212> PRT
<213> Homo sapiens

<400> 351
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Ser Gly Ser Thr Thr Tyr Tyr Ala Asp Ser Val

50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Val Glu Pro Arg Tyr Phe Asp Trp Leu Leu Gly Asp Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 352
<211> 369
<212> DNA
<213> Homo sapiens

<400> 352
caggtgcagc tggtggagtc gggggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt aaatggtatg aaggaagtaa taaatactat 180

ggagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ttgcaaatga acagtctgag aggcgaggat acggctgtgt attactgtgc gagaggcgcc 300

cacgactacg gtgacttcta ctacggtatg gacgtctggg gccaagggac cacggtcacc 360

gtctcctca 369

<210> 353
<211> 123
<212> PRT
<213> Homo sapiens

<400> 353
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Lys Trp Tyr Glu Gly Ser Asn Lys Tyr Tyr Gly Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg Gly Ala His Asp Tyr Gly Asp Phe Tyr Tyr Gly Met Asp Val
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 354
<211> 319
<212> DNA
<213> Homo sapiens

<400> 354
tcctatgaac tgactcagcc agcctcagtg tccgtgtccc caggacagat agccagcatc 60

acctgctctg gagataattt gggggataaa tatatttgct ggtatcagca gaagccaggc 120

cagtcccctg tgcgggtcat ctatcaagat aacaagcggc cctcagggat ccctgagcgt 180

ttctctggct ccaattctgg gaacacagcc actctgacca tcagcgggac ccaggctatg 240

gatgaggctg actattactg tcaggcgtgg gacagcagca ctgtggtatt tcggcggagg 300

gaccaagctg accgtccta 319

<210> 355
<211> 106
<212> PRT
<213> Homo sapiens

<400> 355
Ser Tyr Glu Leu Thr Gln Pro Ala Ser Val Ser Val Ser Pro Gly Gln
1 5 10 15

Ile Ala Ser Ile Thr Cys Ser Gly Asp Asn Leu Gly Asp Lys Tyr Ile
20 25 30

Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Arg Val Ile Tyr
35 40 45

Gln Asp Asn Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser

50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Met
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Ala Trp Asp Ser Ser Thr Val Val
85 90 95

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 356
<211> 366
<212> DNA
<213> Homo sapiens

<400> 356
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60

tcctgtgcag cctctggatt cacctttagc agctatgcca tgagctgggt ccgccaggct 120

ccagggaagg ggctggagtg ggtctcagct attagttata gtggcggtag cacatactac 180

gcaggctccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtgc gaaagatcgg 300

gagggagcga cttggtacta cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360

tcctca 366

<210> 357
<211> 122
<212> PRT
<213> Homo sapiens

<400> 357
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Tyr Ser Gly Gly Ser Thr Tyr Tyr Ala Gly Ser Val
50 55 60

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

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

Ala Lys Asp Arg Glu Gly Ala Thr Trp Tyr Tyr Gly Met Asp Val Trp
            100                 105                 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
```

<210> 358
<211> 319
<212> DNA
<213> Homo sapiens

<400> 358
tcctatgaac tgactcagcc accctcagtg tccgtgtccc caggacagac agccagcatc 60

acctgctctg gagataaatt gggggaaagc tatgcttgct ggtatcagca gaagccaggc 120

cagtcccctg tactggtcat ctatcaagat tacaagcggc cctcagggat ccctgagcgc 180

ttctctggct ccaactctgg gaacacagcc actctgacca tcagcgggac ccaggctatg 240

gatgaggctg actattactg tcaggcgtgg gacagaagta ctgtactatt tcggcggagg 300

gaccaagctg accgtccta 319

<210> 359
<211> 106
<212> PRT
<213> Homo sapiens

<400> 359
```
Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
1               5                   10                  15

Thr Ala Ser Ile Thr Cys Ser Gly Asp Lys Leu Gly Glu Ser Tyr Ala
            20                  25                  30

Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
        35                  40                  45

Gln Asp Tyr Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
    50                  55                  60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Met
```

65 70 75 80

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

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 360
<211> 366
<212> DNA
<213> Homo sapiens

<400> 360
cagatgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cgtctggatt caccttcaga acctatggca tgcactgggt ccgccaggct 120

ccaggcaagg gactggagtg ggtggcagtt atatggtatg atggaagtaa taaacactat 180

gcagactccg tgaagggccg attcaccatc accagagaca attccaagaa cactctgaat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagccccct 300

cagtgggagc tagttcatga agcttttgat atctggggcc aagggacaat ggtcaccgtc 360

tcttca 366

<210> 361
<211> 122
<212> PRT
<213> Homo sapiens

<400> 361
Gln Met Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Thr Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys His Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Thr Arg Asp Asn Ser Lys Asn Thr Leu Asn
65 70 75 80

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

Ala Arg Ala Pro Gln Trp Glu Leu Val His Glu Ala Phe Asp Ile Trp
            100                 105                 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
        115                 120
```

<210> 362
<211> 325
<212> DNA
<213> Homo sapiens

<400> 362
tcctatgtgc tgactcagcc accctcggtg tcagtggccc caggacagac ggccaggatt 60

acctgtgggg gaaacaacct tggaagtaaa agtgtgcact ggtaccagca gaagccaggc 120

caggcccctg tgctggtcgt ctatgatgat agcgaccggc cctcatggat ccctgagcga 180

ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggg cgaagccggg 240

gatgaggccg actattactg tcaggtgtgg gatagtagta gtgatcatgt ggtatttcgg 300

cggagggacc aagctgaccg tccta 325

<210> 363
<211> 108
<212> PRT
<213> Homo sapiens

<400> 363
```
Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Gln
1               5                   10                  15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Asn Leu Gly Ser Lys Ser Val
            20                  25                  30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Val Tyr
        35                  40                  45

Asp Asp Ser Asp Arg Pro Ser Trp Ile Pro Glu Arg Phe Ser Gly Ser
    50                  55                  60

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

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser Asp His
```

85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 364
<211> 981
<212> DNA
<213> Homo sapiens

<400> 364
gctagcacca agggcccatc ggtcttcccc ctggcgccct gctccaggag cacctccgag 60

agcacagcgg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg 120

tggaactcag gcgctctgac cagcggcgtg cacaccttcc cagctgtcct acagtcctca 180

ggactctact ccctcagcag cgtggtgacc gtgccctcca gcaacttcgg cacccagacc 240

tacacctgca acgtagatca caagcccagc aacaccaagg tggacaagac agttgagcgc 300

aaatgttgtg tcgagtgccc accgtgccca gcaccacctg tggcaggacc gtcagtcttc 360

ctcttccccc caaaacccaa ggacaccctc atgatctccc ggacccctga ggtcacgtgc 420

gtggtggtgg acgtgagcca cgaagacccc gaggtccagt tcaactggta cgtggacggc 480

gtggaggtgc ataatgccaa gacaaagcca cgggaggagc agttcaacag cacgttccgt 540

gtggtcagcg tcctcaccgt tgtgcaccag gactggctga acggcaagga gtacaagtgc 600

aaggtctcca acaaaggcct cccagccccc atcgagaaaa ccatctccaa aaccaaaggg 660

cagccccgag aaccacaggt gtacaccctg cccccatccc gggaggagat gaccaagaac 720

caggtcagcc tgacctgcct ggtcaaaggc ttctacccca gcgacatcgc cgtggagtgg 780

gagagcaatg ggcagccgga gaacaactac aagaccacac ctcccatgct ggactccgac 840

ggctccttct tcctctacag caagctcacc gtggacaaga gcaggtggca gcaggggaac 900

gtcttctcat gctccgtgat gcatgaggct ctgcacaacc actacacgca gaagagcctc 960

tccctgtctc cgggtaaatg a 981

<210> 365
<211> 326
<212> PRT
<213> Homo sapiens

<400> 365
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

```
Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
            20                  25                  30

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

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
    50                  55                  60

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

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
                85                  90                  95

Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro
            100                 105                 110

Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
        115                 120                 125

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
    130                 135                 140

Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly
145                 150                 155                 160

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

Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp
            180                 185                 190

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro
        195                 200                 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu
    210                 215                 220

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
225                 230                 235                 240

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
                245                 250                 255
```

```
Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
            260                 265                 270

Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
        275                 280                 285

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
    290                 295                 300

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
305                 310                 315                 320

Ser Leu Ser Pro Gly Lys
                325
```

<210> 366
<211> 324
<212> DNA
<213> Homo sapiens

<400> 366

```
cgtacggtgg ctgcaccatc tgtcttcatc ttcccgccat ctgatgagca gttgaaatct     60

ggaactgcct ctgttgtgtg cctgctgaat aacttctatc ccagagaggc caaagtacag    120

tggaaggtgg ataacgccct ccaatcgggt aactcccagg agagtgtcac agagcaggac    180

agcaaggaca gcacctacag cctcagcagc accctgacgc tgagcaaagc agactacgag    240

aaacacaaag tctacgcctg cgaagtcacc catcagggcc tgagctcgcc cgtcacaaag    300

agcttcaaca ggggagagtg ttag                                           324
```

<210> 367
<211> 107
<212> PRT
<213> Homo sapiens

<400> 367

```
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
1               5                   10                  15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
            20                  25                  30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
        35                  40                  45
```

```
Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
    50                  55                  60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
65                  70                  75                  80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
                85                  90                  95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
            100                 105
```

<210> 368
<211> 321
<212> DNA
<213> Homo sapiens

<400> 368
ggccaaccga aagcggcgcc ctcggtcact ctgttcccgc cctcctctga ggagcttcaa 60

gccaacaagg ccacactggt gtgtctcata agtgacttct acccgggagc cgtgacagtg 120

gcctggaagg cagatagcag ccccgtcaag gcgggagtgg agaccaccac accctccaaa 180

caaagcaaca acaagtacgc ggccagcagc tatctgagcc tgacgcctga gcagtggaag 240

tcccacagaa gctacagctg ccaggtcacg catgaaggga gcaccgtgga gaagacagtg 300

gcccctacag aatgttcata g 321

<210> 369
<211> 106
<212> PRT
<213> Homo sapiens

<400> 369

```
Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
1               5                   10                  15

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

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        35                  40                  45

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    50                  55                  60
```

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

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
85 90 95

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
100 105

<210> 370
<211> 15
<212> DNA
<213> Homo sapiens

<400> 370
agaaaaagga aagtc 15

<210> 371
<211> 5
<212> PRT
<213> Homo sapiens

<400> 371
Arg Lys Arg Lys Val
1 5

<210> 372
<211> 504
<212> DNA
<213> Homo sapiens

<400> 372
atgttccctt ttgccttact atatgttctg tcagtttctt tcaggaaaat cttcatctta 60

caacttgtag ggctggtgtt aacttacgac ttcactaact gtgactttga gaagattaaa 120

gcagcctatc tcagtactat ttctaaagac ctgattacat atatgagtgg gaccaaaagt 180

accgagttca acaacaccgt ctcttgtagc aatcggccac attgccttac tgaaatccag 240

agcctaacct tcaatcccac cgccggctgc gcgtcgctcg ccaaagaaat gttcgccatg 300

aaaactaagg ctgccttagc tatctggtgc ccaggctatt cggaaactca gataaatgct 360

actcaggcaa tgaagaagag gacaaccaat aaatgtctgg aacaagtgtc acaattacaa 420

ggattgtggc gtcgcttcaa tcgaccttta ctgaaacaac agcatcacca tcaccatcac 480

gactacaaag acgatgacga caaa 504

<210> 373
<211> 168

<212> PRT
<213> Homo sapiens

<400> 373
Met Phe Pro Phe Ala Leu Leu Tyr Val Leu Ser Val Ser Phe Arg Lys
1 5 10 15

Ile Phe Ile Leu Gln Leu Val Gly Leu Val Leu Thr Tyr Asp Phe Thr
20 25 30

Asn Cys Asp Phe Glu Lys Ile Lys Ala Ala Tyr Leu Ser Thr Ile Ser
35 40 45

Lys Asp Leu Ile Thr Tyr Met Ser Gly Thr Lys Ser Thr Glu Phe Asn
50 55 60

Asn Thr Val Ser Cys Ser Asn Arg Pro His Cys Leu Thr Glu Ile Gln
65 70 75 80

Ser Leu Thr Phe Asn Pro Thr Ala Gly Cys Ala Ser Leu Ala Lys Glu
85 90 95

Met Phe Ala Met Lys Thr Lys Ala Ala Leu Ala Ile Trp Cys Pro Gly
100 105 110

Tyr Ser Glu Thr Gln Ile Asn Ala Thr Gln Ala Met Lys Lys Arg Thr
115 120 125

Thr Asn Lys Cys Leu Glu Gln Val Ser Gln Leu Gln Gly Leu Trp Arg
130 135 140

Arg Phe Asn Arg Pro Leu Leu Lys Gln Gln His His His His His His
145 150 155 160

Asp Tyr Lys Asp Asp Asp Asp Lys
165

<210> 374
<211> 519
<212> DNA
<213> Homo sapiens

<400> 374
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caacttgtag ggctggtgtt aacttacgac ttcactaact gtgactttga gaagattaaa 120

gcagcctatc tcagtactat ttctaaagac ctgattacat atatgagtgg gaccaaaagt 180

accgagttca acaacaccgt ctcttgtagc aatcggccac attgccttac tgaaatccag 240

agcctaacct tcaatcccac cgccggctgc gcgtcgctcg ccaaagaaat gttcgccatg 300

aaaactaagg ctgccttagc tatctggtgc ccaggctatt cggaaactca gataaatgct 360

actcaggcaa tgaagaagag gagaaaaagg aaagtcacaa ccaataaatg tctggaacaa 420

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caccatcacc atcacgacta caaagacgat gacgacaaa 519

<210> 375
<211> 173
<212> PRT
<213> Homo sapiens

<400> 375
Met Phe Pro Phe Ala Leu Leu Tyr Val Leu Ser Val Ser Phe Arg Lys
1 5 10 15

Ile Phe Ile Leu Gln Leu Val Gly Leu Val Leu Thr Tyr Asp Phe Thr
20 25 30

Asn Cys Asp Phe Glu Lys Ile Lys Ala Ala Tyr Leu Ser Thr Ile Ser
35 40 45

Lys Asp Leu Ile Thr Tyr Met Ser Gly Thr Lys Ser Thr Glu Phe Asn
50 55 60

Asn Thr Val Ser Cys Ser Asn Arg Pro His Cys Leu Thr Glu Ile Gln
65 70 75 80

Ser Leu Thr Phe Asn Pro Thr Ala Gly Cys Ala Ser Leu Ala Lys Glu
85 90 95

Met Phe Ala Met Lys Thr Lys Ala Ala Leu Ala Ile Trp Cys Pro Gly
100 105 110

Tyr Ser Glu Thr Gln Ile Asn Ala Thr Gln Ala Met Lys Lys Arg Arg
115 120 125

Lys Arg Lys Val Thr Thr Asn Lys Cys Leu Glu Gln Val Ser Gln Leu
130 135 140

Gln Gly Leu Trp Arg Arg Phe Asn Arg Pro Leu Leu Lys Gln Gln His

145 150 155 160

His His His His His Asp Tyr Lys Asp Asp Asp Asp Lys
165 170

<210> 376
<211> 28
<212> PRT
<213> Homo sapiens

<400> 376
Met Phe Pro Phe Ala Leu Leu Tyr Val Leu Ser Val Ser Phe Arg Lys
1 5 10 15

Ile Phe Ile Leu Gln Leu Val Gly Leu Val Leu Thr
20 25

<210> 377
<211> 481
<212> DNA
<213> Homo sapiens

<400> 377
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tacgacttca ctaactgtga ctttcagaag attgaagcag actatctccg tactatttct 120

aaagacctga ttacatatat gagtgggact aaaagtaccg acttcaacaa caccgtctcc 180

tgtagcaatc ggccacactg ccttactgaa atccagagcc taaccttcaa tcccaccccc 240

cgctgcgcgt cgctcgccaa ggaaatgttc gccaggaaaa ctaaggctac cctcgctctc 300

tggtgcccag gctattcgga aactcagata aatgctactc aggcaatgaa gaagaggaca 360

accaataaat gtctggaaca agtgtcacaa ttactaggat tgtggcgtcg cttcattcga 420

actttactga aacaacagca ccaccaccac caccatgact ataaagacga tgacgacaaa 480

t 481

<210> 378
<211> 160
<212> PRT
<213> Homo sapiens

<400> 378
Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15

Gly Ser Thr Gly Tyr Asp Phe Thr Asn Cys Asp Phe Gln Lys Ile Glu
20 25 30

Ala Asp Tyr Leu Arg Thr Ile Ser Lys Asp Leu Ile Thr Tyr Met Ser
35 40 45

Gly Thr Lys Ser Thr Asp Phe Asn Asn Thr Val Ser Cys Ser Asn Arg
50 55 60

Pro His Cys Leu Thr Glu Ile Gln Ser Leu Thr Phe Asn Pro Thr Pro
65 70 75 80

Arg Cys Ala Ser Leu Ala Lys Glu Met Phe Ala Arg Lys Thr Lys Ala
85 90 95

Thr Leu Ala Leu Trp Cys Pro Gly Tyr Ser Glu Thr Gln Ile Asn Ala
100 105 110

Thr Gln Ala Met Lys Lys Arg Thr Thr Asn Lys Cys Leu Glu Gln Val
115 120 125

Ser Gln Leu Leu Gly Leu Trp Arg Arg Phe Ile Arg Thr Leu Leu Lys
130 135 140

Gln Gln His His His His His His Asp Tyr Lys Asp Asp Asp Asp Lys
145 150 155 160

<210> 379
<211> 495
<212> DNA
<213> Homo sapiens

<400> 379
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tacgacttca ctaactgtga ctttcagaag attgaagcag actatctccg tactatttct 120

aaagacctga ttacatatat gagtgggact aaaagtaccg acttcaacaa caccgtctcc 180

tgtagcaatc ggccacactg ccttactgaa atccagagcc taaccttcaa tcccaccccc 240

cgctgcgcgt cgctcgccaa ggaaatgttc gccaggaaaa ctaaggctac cctcgctctc 300

tggtgcccag gctattcgga aactcagata aatgctactc aggcaatgaa gaagaggaga 360

aaaaggaaag tcacaaccaa taaatgtctg gaacaagtgt cacaattact aggattgtgg 420

cgtcgcttca ttcgaacttt actgaaacaa cagcaccacc accaccacca tgactataaa 480

gacgatgacg acaaa 495

<210> 380
<211> 165
<212> PRT
<213> Homo sapiens

<400> 380
Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15

Gly Ser Thr Gly Tyr Asp Phe Thr Asn Cys Asp Phe Gln Lys Ile Glu
20 25 30

Ala Asp Tyr Leu Arg Thr Ile Ser Lys Asp Leu Ile Thr Tyr Met Ser
35 40 45

Gly Thr Lys Ser Thr Asp Phe Asn Asn Thr Val Ser Cys Ser Asn Arg
50 55 60

Pro His Cys Leu Thr Glu Ile Gln Ser Leu Thr Phe Asn Pro Thr Pro
65 70 75 80

Arg Cys Ala Ser Leu Ala Lys Glu Met Phe Ala Arg Lys Thr Lys Ala
85 90 95

Thr Leu Ala Leu Trp Cys Pro Gly Tyr Ser Glu Thr Gln Ile Asn Ala
100 105 110

Thr Gln Ala Met Lys Lys Arg Arg Lys Arg Lys Val Thr Thr Asn Lys
115 120 125

Cys Leu Glu Gln Val Ser Gln Leu Leu Gly Leu Trp Arg Arg Phe Ile
130 135 140

Arg Thr Leu Leu Lys Gln Gln His His His His His His Asp Tyr Lys
145 150 155 160

Asp Asp Asp Asp Lys
165

<210> 381
<211> 20
<212> PRT
<213> Homo sapiens

<400> 381
Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro

1 5 10 15

Gly Ser Thr Gly
20

<210> 382
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic linker peptide

<400> 382
Ser Gly Gly Ala Pro Met Leu Ser
1 5