

10172W001_SEQ
SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.
 <120> MULTISPECIFIC ANTIGEN-BINDING MOLECULES AND USES THEREOF
 <130> 10172W001
 <150> US 62/188,860
 <151> 2015-07-06
 <150> US 62/328,900
 <151> 2016-04-28
 <150> US 62/347,179
 <151> 2016-06-08
 <160> 12
 <170> PatentIn version 3.5
 <210> 1
 <211> 502
 <212> PRT
 <213> Artificial sequence
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 <223> synthetic
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Val Ala Ala Ala Leu Gly Gly His Pro Leu Leu Gly Val Ser Ala Thr
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Leu Asn Ser Val Leu Asn Ser Asn Ala Ile Lys Asn Leu Pro Pro Pro
 35 40 45

Leu Gly Gly Ala Ala Gly His Pro Gly Ser Ala Val Ser Ala Ala Pro
 50 55 60

Gly Ile Leu Tyr Pro Gly Gly Asn Lys Tyr Gln Thr Ile Asp Asn Tyr
 65 70 75 80

Gln Pro Tyr Pro Cys Ala Glu Asp Glu Glu Cys Gly Thr Asp Glu Tyr
 85 90 95

Cys Ala Ser Pro Thr Arg Gly Gly Asp Ala Gly Val Gln Ile Cys Leu
 100 105 110

Ala Cys Arg Lys Arg Arg Lys Arg Cys Met Arg His Ala Met Cys Cys
 115 120 125

Pro Gly Asn Tyr Cys Lys Asn Gly Ile Cys Val Ser Ser Asp Gln Asn
 130 135 140

His Phe Arg Gly Glu Ile Glu Glu Thr Ile Thr Glu Ser Phe Gly Asn

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145 150 155 160
 Asp His Ser Thr Leu₁₆₅ Asp Gly Tyr Ser Arg₁₇₀ Arg Thr Thr Leu₁₇₅ Ser Ser
 Lys Met Tyr His₁₈₀ Thr Lys Gly Gln Glu₁₈₅ Gly Ser Val Cys₁₉₀ Leu Arg Ser
 Ser Asp Cys₁₉₅ Ala Ser Gly Leu Cys₂₀₀ Cys Ala Arg His Phe₂₀₅ Trp Ser Lys
 Ile Cys₂₁₀ Lys Pro Val Leu Lys₂₁₅ Glu Gly Gln Val Cys₂₂₀ Thr Lys His Arg
 Arg₂₂₅ Lys Gly Ser His Gly₂₃₀ Leu Glu Ile Phe Gln₂₃₅ Arg Cys Tyr Cys₂₄₀ Gly
 Glu Gly Leu Ser Cys₂₄₅ Arg Ile Gln Lys Asp₂₅₀ His His Gln Ala Ser₂₅₅ Asn
 Ser Ser Arg Leu₂₆₀ His Thr Cys Gln Arg₂₆₅ His Gly Pro Gly Glu₂₇₀ Pro Arg
 Gly Pro Thr₂₇₅ Ile Lys Pro Cys Pro₂₈₀ Pro Cys Lys Cys Pro₂₈₅ Ala Pro Asn
 Leu₂₉₀ Leu Gly Gly Pro Ser Val₂₉₅ Phe Ile Phe Pro Pro₃₀₀ Lys Ile Lys Asp
 Val₃₀₅ Leu Met Ile Ser Leu₃₁₀ Ser Pro Ile Val Thr₃₁₅ Cys Val Val Val Asp₃₂₀
 Val Ser Glu Asp Asp₃₂₅ Pro Asp Val Gln Ile₃₃₀ Ser Trp Phe Val Asn₃₃₅ Asn
 Val Glu Val His₃₄₀ Thr Ala Gln Thr Gln₃₄₅ Thr His Arg Glu Asp₃₅₀ Tyr Asn
 Ser Thr Leu₃₅₅ Arg Val Val Ser Ala₃₆₀ Leu Pro Ile Gln His₃₆₅ Gln Asp Trp
 Met Ser₃₇₀ Gly Lys Glu Phe Lys₃₇₅ Cys Lys Val Asn Asn₃₈₀ Lys Asp Leu Pro
 Ala₃₈₅ Pro Ile Glu Arg Thr₃₉₀ Ile Ser Lys Pro Lys₃₉₅ Gly Ser Val Arg Ala₄₀₀
 Pro Gln Val Tyr Val₄₀₅ Leu Pro Pro Pro Glu₄₁₀ Glu Glu Met Thr Lys₄₁₅ Lys
 Gln Val Thr Leu Thr Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile

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420

425

430

Tyr Val Glu Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn
435 440 445

Thr Glu Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys
450 455 460

Leu Arg Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys
465 470 475 480

Ser Val Val His Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe
485 490 495

Ser Arg Thr Pro Gly Lys
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<210> 2
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<400> 2

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Val Ala Ala Ala Leu Gly Gly His Pro Leu Leu Gly Val Ser Ala Thr
20 25 30

Leu Asn Ser Val Leu Asn Ser Asn Ala Ile Lys Asn Leu Pro Pro Pro
35 40 45

Leu Gly Gly Ala Ala Gly His Pro Gly Ser Ala Val Ser Ala Ala Pro
50 55 60

Gly Ile Leu Tyr Pro Gly Gly Asn Lys Tyr Gln Thr Ile Asp Asn Tyr
65 70 75 80

Gln Pro Tyr Pro Cys Ala Glu Asp Glu Glu Cys Gly Thr Asp Glu Tyr
85 90 95

Cys Ala Ser Pro Thr Arg Gly Gly Asp Ala Gly Val Gln Ile Cys Leu
100 105 110

Ala Cys Arg Lys Arg Arg Lys Arg Cys Met Arg His Ala Met Cys Cys
115 120 125

Pro Gly Asn Tyr Cys Lys Asn Gly Ile Cys Val Ser Ser Asp Gln Asn
130 135 140

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His Phe Arg Gly Glu Ile Glu Glu Thr Ile Thr Glu Ser Phe Gly Asn
 145 150 155 160
 Asp His Ser Thr Leu Asp Gly Tyr Ser Arg Arg Thr Thr Leu Ser Ser
 165 170 175
 Lys Met Tyr His Thr Lys Gly Gln Glu Gly Ser Val Cys Leu Arg Ser
 180 185 190
 Ser Asp Cys Ala Ser Gly Leu Cys Cys Ala Arg His Phe Trp Ser Lys
 195 200 205
 Ile Cys Lys Pro Val Leu Lys Glu Gly Gln Val Cys Thr Lys His Arg
 210 215 220
 Arg Lys Gly Ser His Gly Leu Glu Ile Phe Gln Arg Cys Tyr Cys Gly
 225 230 235 240
 Glu Gly Leu Ser Cys Arg Ile Gln Lys Asp His His Gln Ala Ser Asn
 245 250 255
 Ser Ser Arg Leu His Thr Cys Gln Arg His Gly Pro Gly Asp Lys Thr
 260 265 270
 His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 275 280 285
 Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 290 295 300
 Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 305 310 315 320
 Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 325 330 335
 Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 340 345 350
 Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 355 360 365
 Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 370 375 380
 Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 385 390 395 400
 Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
 405 410 415

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Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
420 425 430

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
435 440 445

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
450 455 460

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
465 470 475 480

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
485 490 495

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<213> Artificial sequence

<220>
<223> synthetic

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1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asp 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 Ile Lys Tyr Phe Arg 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 Val Glu Asp Thr Ala His Tyr Tyr Cys
85 90 95

Ala Lys Glu Ser Ser Ser Trp Tyr Phe Tyr His Gly Leu Asp Val Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<210> 4
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<213> Artificial sequence

10172W001_SEQ

<220>

<223> synthetic

<400> 4

Glu Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Ser Pro Gly
1 5 10 15

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

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

Pro His Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala 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 Gly Asp Val Gly Thr Tyr Phe Cys Met Gln Ser
85 90 95

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

Lys Arg

<210> 5

<211> 692

<212> PRT

<213> Artificial sequence

<220>

<223> synthetic

<400> 5

Met Gly Thr Val Ser Ser Arg Arg Ser Trp Trp Pro Leu Pro Leu Leu
1 5 10 15

Leu Leu Leu Leu Leu Leu Leu Gly Pro Ala Gly Ala Arg Ala Gln Glu
20 25 30

Asp Glu Asp Gly Asp Tyr Glu Glu Leu Val Leu Ala Leu Arg Ser Glu
35 40 45

Glu Asp Gly Leu Ala Glu Ala Pro Glu His Gly Thr Thr Ala Thr Phe
50 55 60

His Arg Cys Ala Lys Asp Pro Trp Arg Leu Pro Gly Thr Tyr Val Val
65 70 75 80

Val Leu Lys Glu Glu Thr His Leu Ser Gln Ser Glu Arg Thr Ala Arg

Arg Leu Gln Ala Gln Ala Ala Arg Arg Gly Tyr Leu Thr Lys Ile Leu
 100 105 110
 His Val Phe His Gly Leu Leu Pro Gly Phe Leu Val Lys Met Ser Gly
 115 120 125
 Asp Leu Leu Glu Leu Ala Leu Lys Leu Pro His Val Asp Tyr Ile Glu
 130 135 140
 Glu Asp Ser Ser Val Phe Ala Gln Ser Ile Pro Trp Asn Leu Glu Arg
 145 150 155 160
 Ile Thr Pro Pro Arg Tyr Arg Ala Asp Glu Tyr Gln Pro Pro Asp Gly
 165 170 175
 Gly Ser Leu Val Glu Val Tyr Leu Leu Asp Thr Ser Ile Gln Ser Asp
 180 185 190
 His Arg Glu Ile Glu Gly Arg Val Met Val Thr Asp Phe Glu Asn Val
 195 200 205
 Pro Glu Glu Asp Gly Thr Arg Phe His Arg Gln Ala Ser Lys Cys Asp
 210 215 220
 Ser His Gly Thr His Leu Ala Gly Val Val Ser Gly Arg Asp Ala Gly
 225 230 235 240
 Val Ala Lys Gly Ala Ser Met Arg Ser Leu Arg Val Leu Asn Cys Gln
 245 250 255
 Gly Lys Gly Thr Val Ser Gly Thr Leu Ile Gly Leu Glu Phe Ile Arg
 260 265 270
 Lys Ser Gln Leu Val Gln Pro Val Gly Pro Leu Val Val Leu Leu Pro
 275 280 285
 Leu Ala Gly Gly Tyr Ser Arg Val Leu Asn Ala Ala Cys Gln Arg Leu
 290 295 300
 Ala Arg Ala Gly Val Val Leu Val Thr Ala Ala Gly Asn Phe Arg Asp
 305 310 315 320
 Asp Ala Cys Leu Tyr Ser Pro Ala Ser Ala Pro Glu Val Ile Thr Val
 325 330 335
 Gly Ala Thr Asn Ala Gln Asp Gln Pro Val Thr Leu Gly Thr Leu Gly
 340 345 350
 Thr Asn Phe Gly Arg Cys Val Asp Leu Phe Ala Pro Gly Glu Asp Ile

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355

360

365

Ile Gly Ala Ser Ser Asp Cys Ser Thr Cys Phe Val Ser Gln Ser Gly
370 375 380

Thr Ser Gln Ala Ala Ala His Val Ala Gly Ile Ala Ala Met Met Leu
385 390 395 400

Ser Ala Glu Pro Glu Leu Thr Leu Ala Glu Leu Arg Gln Arg Leu Ile
405 410 415

His Phe Ser Ala Lys Asp Val Ile Asn Glu Ala Trp Phe Pro Glu Asp
420 425 430

Gln Arg Val Leu Thr Pro Asn Leu Val Ala Ala Leu Pro Pro Ser Thr
435 440 445

His Gly Ala Gly Trp Gln Leu Phe Cys Arg Thr Val Trp Ser Ala His
450 455 460

Ser Gly Pro Thr Arg Met Ala Thr Ala Val Ala Arg Cys Ala Pro Asp
465 470 475 480

Glu Glu Leu Leu Ser Cys Ser Ser Phe Ser Arg Ser Gly Lys Arg Arg
485 490 495

Gly Glu Arg Met Glu Ala Gln Gly Gly Lys Leu Val Cys Arg Ala His
500 505 510

Asn Ala Phe Gly Gly Glu Gly Val Tyr Ala Ile Ala Arg Cys Cys Leu
515 520 525

Leu Pro Gln Ala Asn Cys Ser Val His Thr Ala Pro Pro Ala Glu Ala
530 535 540

Ser Met Gly Thr Arg Val His Cys His Gln Gln Gly His Val Leu Thr
545 550 555 560

Gly Cys Ser Ser His Trp Glu Val Glu Asp Leu Gly Thr His Lys Pro
565 570 575

Pro Val Leu Arg Pro Arg Gly Gln Pro Asn Gln Cys Val Gly His Arg
580 585 590

Glu Ala Ser Ile His Ala Ser Cys Cys His Ala Pro Gly Leu Glu Cys
595 600 605

Lys Val Lys Glu His Gly Ile Pro Ala Pro Gln Glu Gln Val Thr Val
610 615 620

Ala Cys Glu Glu Gly Trp Thr Leu Thr Gly Cys Ser Ala Leu Pro Gly

10172W001_SEQ

Ile Glu Glu Asp Ser Ser Val Phe Ala Gln Ser Ile Pro Trp Asn Leu
115 120 125

Glu Arg Ile Thr Pro Pro Arg Tyr Arg Ala Asp Glu Tyr Gln Pro Pro
130 135 140

Asp Gly Gly Ser Leu Val Glu Val Tyr Leu Leu Asp Thr Ser Ile Gln
145 150 155 160

Ser Asp His Arg Glu Ile Glu Gly Arg Val Met Val Thr Asp Phe Glu
165 170 175

Asn Val Pro Glu Glu Asp Gly Thr Arg Phe His Arg Gln Ala Ser Lys
180 185 190

Cys Asp Ser His Gly Thr His Leu Ala Gly Val Val Ser Gly Arg Asp
195 200 205

Ala Gly Val Ala Lys Gly Ala Ser Met Arg Ser Leu Arg Val Leu Asn
210 215 220

Cys Gln Gly Lys Gly Thr Val Ser Gly Thr Leu Ile Gly Leu Glu Phe
225 230 235 240

Ile Arg Lys Ser Gln Leu Val Gln Pro Val Gly Pro Leu Val Val Leu
245 250 255

Leu Pro Leu Ala Gly Gly Tyr Ser Arg Val Leu Asn Ala Ala Cys Gln
260 265 270

Arg Leu Ala Arg Ala Gly Val Val Leu Val Thr Ala Ala Gly Asn Phe
275 280 285

Arg Asp Asp Ala Cys Leu Tyr Ser Pro Ala Ser Ala Pro Glu Val Ile
290 295 300

Thr Val Gly Ala Thr Asn Ala Gln Asp Gln Pro Val Thr Leu Gly Thr
305 310 315 320

Leu Gly Thr Asn Phe Gly Arg Cys Val Asp Leu Phe Ala Pro Gly Glu
325 330 335

Asp Ile Ile Gly Ala Ser Ser Asp Cys Ser Thr Cys Phe Val Ser Gln
340 345 350

Ser Gly Thr Ser Gln Ala Ala Ala His Val Ala Gly Ile Ala Ala Met
355 360 365

Met Leu Ser Ala Glu Pro Glu Leu Thr Leu Ala Glu Leu Arg Gln Arg
370 375 380

10172W001_SEQ

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

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Ala Ser Gln Glu Leu Gln
660

<210> 8
<211> 267
<212> PRT
<213> Homo sapiens

<400> 8

Glu Ala Trp Phe Pro Glu Asp Gln Arg Val Leu Thr Pro Asn Leu Val
1 5 10 15

Ala Ala Leu Pro Pro Ser Thr His Gly Ala Gly Trp Gln Leu Phe Cys
20 25 30

Arg Thr Val Trp Ser Ala His Ser Gly Pro Thr Arg Met Ala Thr Ala
35 40 45

Val Ala Arg Cys Ala Pro Asp Glu Glu Leu Leu Ser Cys Ser Ser Phe
50 55 60

Ser Arg Ser Gly Lys Arg Arg Gly Glu Arg Met Glu Ala Gln Gly Gly
65 70 75 80

Lys Leu Val Cys Arg Ala His Asn Ala Phe Gly Gly Glu Gly Val Tyr
85 90 95

Ala Ile Ala Arg Cys Cys Leu Leu Pro Gln Ala Asn Cys Ser Val His
100 105 110

Thr Ala Pro Pro Ala Glu Ala Ser Met Gly Thr Arg Val His Cys His
115 120 125

Gln Gln Gly His Val Leu Thr Gly Cys Ser Ser His Trp Glu Val Glu
130 135 140

Asp Leu Gly Thr His Lys Pro Pro Val Leu Arg Pro Arg Gly Gln Pro
145 150 155 160

Asn Gln Cys Val Gly His Arg Glu Ala Ser Ile His Ala Ser Cys Cys
165 170 175

His Ala Pro Gly Leu Glu Cys Lys Val Lys Glu His Gly Ile Pro Ala
180 185 190

Pro Gln Glu Gln Val Thr Val Ala Cys Glu Glu Gly Trp Thr Leu Thr
195 200 205

Gly Cys Ser Ala Leu Pro Gly Thr Ser His Val Leu Gly Ala Tyr Ala
210 215 220

Val Asp Asn Thr Cys Val Val Arg Ser Arg Asp Val Ser Thr Thr Gly
Page 12

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225						230						235						240
Ser	Thr	Ser	Glu	Gly	Ala	Val	Thr	Ala	Val	Ala	Ile	Cys	Cys	Arg	Ser			
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Arg	His	Leu	Ala	Gln	Ala	Ser	Gln	Glu	Leu	Gln								
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<211> 243																		
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<213> Homo sapiens																		
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Gly	Pro	Thr	Arg	Met	Ala	Thr	Ala	Val	Ala	Arg	Cys	Ala	Pro	Asp	Glu			
			20					25					30					
Glu	Leu	Leu	Ser	Cys	Ser	Ser	Phe	Ser	Arg	Ser	Gly	Lys	Arg	Arg	Gly			
		35					40					45						
Glu	Arg	Met	Glu	Ala	Gln	Gly	Gly	Lys	Leu	Val	Cys	Arg	Ala	His	Asn			
	50					55					60							
Ala	Phe	Gly	Gly	Glu	Gly	Val	Tyr	Ala	Ile	Ala	Arg	Cys	Cys	Leu	Leu			
65					70					75					80			
Pro	Gln	Ala	Asn	Cys	Ser	Val	His	Thr	Ala	Pro	Pro	Ala	Glu	Ala	Ser			
				85					90					95				
Met	Gly	Thr	Arg	Val	His	Cys	His	Gln	Gln	Gly	His	Val	Leu	Thr	Gly			
			100					105					110					
Cys	Ser	Ser	His	Trp	Glu	Val	Glu	Asp	Leu	Gly	Thr	His	Lys	Pro	Pro			
		115					120					125						
Val	Leu	Arg	Pro	Arg	Gly	Gln	Pro	Asn	Gln	Cys	Val	Gly	His	Arg	Glu			
	130					135					140							
Ala	Ser	Ile	His	Ala	Ser	Cys	Cys	His	Ala	Pro	Gly	Leu	Glu	Cys	Lys			
145					150					155					160			
Val	Lys	Glu	His	Gly	Ile	Pro	Ala	Pro	Gln	Glu	Gln	Val	Thr	Val	Ala			
				165					170					175				
Cys	Glu	Glu	Gly	Trp	Thr	Leu	Thr	Gly	Cys	Ser	Ala	Leu	Pro	Gly	Thr			
			180					185					190					
Ser	His	Val	Leu	Gly	Ala	Tyr	Ala	Val	Asp	Asn	Thr	Cys	Val	Val	Arg			
		195					200					205						

10172W001_SEQ

Ser Arg Asp Val Ser Thr Thr Gly Ser Thr Ser Glu Gly Ala Val Thr
210 215 220

Ala Val Ala Ile Cys Cys Arg Ser Arg His Leu Ala Gln Ala Ser Gln
225 230 235 240

Glu Leu Gln

<210> 10
<211> 399
<212> PRT
<213> Homo sapiens
<400> 10

Met Gly Glu Pro Gly Gln Ser Pro Ser Pro Arg Ser Ser His Gly Ser
1 5 10 15

Pro Pro Thr Leu Ser Thr Leu Thr Leu Leu Leu Leu Cys Gly His
20 25 30

Ala His Ser Gln Cys Lys Ile Leu Arg Cys Asn Ala Glu Tyr Val Ser
35 40 45

Ser Thr Leu Ser Leu Arg Gly Gly Gly Ser Ser Gly Ala Leu Arg Gly
50 55 60

Gly Gly Gly Gly Gly Arg Gly Gly Gly Val Gly Ser Gly Gly Leu Cys
65 70 75 80

Arg Ala Leu Arg Ser Tyr Ala Leu Cys Thr Arg Arg Thr Ala Arg Thr
85 90 95

Cys Arg Gly Asp Leu Ala Phe His Ser Ala Val His Gly Ile Glu Asp
100 105 110

Leu Met Ile Gln His Asn Cys Ser Arg Gln Gly Pro Thr Ala Pro Pro
115 120 125

Pro Pro Arg Gly Pro Ala Leu Pro Gly Ala Gly Ser Gly Leu Pro Ala
130 135 140

Pro Asp Pro Cys Asp Tyr Glu Gly Arg Phe Ser Arg Leu His Gly Arg
145 150 155 160

Pro Pro Gly Phe Leu His Cys Ala Ser Phe Gly Asp Pro His Val Arg
165 170 175

Ser Phe His His His Phe His Thr Cys Arg Val Gln Gly Ala Trp Pro
180 185 190

10172W001_SEQ

Leu Leu Asp Asn Asp Phe Leu Phe Val Gln Ala Thr Ser Ser Pro Met
195 200 205

Ala Leu Gly Ala Asn Ala Thr Ala Thr Arg Lys Leu Thr Ile Ile Phe
210 215 220

Lys Asn Met Gln Glu Cys Ile Asp Gln Lys Val Tyr Gln Ala Glu Val
225 230 235 240

Asp Asn Leu Pro Val Ala Phe Glu Asp Gly Ser Ile Asn Gly Gly Asp
245 250 255

Arg Pro Gly Gly Ser Ser Leu Ser Ile Gln Thr Ala Asn Pro Gly Asn
260 265 270

His Val Glu Ile Gln Ala Ala Tyr Ile Gly Thr Thr Ile Ile Ile Arg
275 280 285

Gln Thr Ala Gly Gln Leu Ser Phe Ser Ile Lys Val Ala Glu Asp Val
290 295 300

Ala Met Ala Phe Ser Ala Glu Gln Asp Leu Gln Leu Cys Val Gly Gly
305 310 315 320

Cys Pro Pro Ser Gln Arg Leu Ser Arg Ser Glu Arg Asn Arg Arg Gly
325 330 335

Ala Ile Thr Ile Asp Thr Ala Arg Arg Leu Cys Lys Glu Gly Leu Pro
340 345 350

Val Glu Asp Ala Tyr Phe His Ser Cys Val Phe Asp Val Leu Ile Ser
355 360 365

Gly Asp Pro Asn Phe Thr Val Ala Ala Gln Ala Ala Leu Glu Asp Ala
370 375 380

Arg Ala Phe Leu Pro Asp Leu Glu Lys Leu His Leu Phe Pro Ser
385 390 395

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<213> Homo sapiens

<400> 11

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

Leu Asn Thr Cys Leu Leu Asn Gly Gln Leu Pro Pro Gly Lys Pro Glu
20 25 30

10172W001_SEQ

Ile Phe Lys₃₅ Cys Arg Ser Pro Asn₄₀ Lys Glu Thr Phe₄₅ Thr Cys Trp Trp
 Arg Pro₅₀ Gly Thr Asp Gly₅₅ Gly Leu Pro Thr Asn₆₀ Tyr Ser Leu Thr Tyr
 His₆₅ Arg Glu Gly Glu₇₀ Thr Leu Met His Glu₇₅ Cys Pro Asp Tyr Ile₈₀ Thr
 Gly Gly Pro Asn₈₅ Ser Cys His Phe Gly₉₀ Lys Gln Tyr Thr Ser₉₅ Met Trp
 Arg Thr Tyr Ile₁₀₀ Met Met Val Asn₁₀₅ Ala Thr Asn Gln Met₁₁₀ Gly Ser Ser
 Phe Ser₁₁₅ Asp Glu Leu Tyr Val₁₂₀ Asp Val Thr Tyr Ile₁₂₅ Val Gln Pro Asp
 Pro₁₃₀ Pro Leu Glu Leu Ala₁₃₅ Val Glu Val Lys Gln₁₄₀ Pro Glu Asp Arg Lys
 Pro₁₄₅ Tyr Leu Trp Ile₁₅₀ Lys Trp Ser Pro Pro₁₅₅ Thr Leu Ile Asp Leu₁₆₀ Lys
 Thr Gly Trp Phe₁₆₅ Thr Leu Leu Tyr Glu₁₇₀ Ile Arg Leu Lys Pro₁₇₅ Glu Lys
 Ala Ala Glu₁₈₀ Trp Glu Ile His Phe₁₈₅ Ala Gly Gln Gln Thr₁₉₀ Glu Phe Lys
 Ile Leu₁₉₅ Ser Leu His Pro Gly₂₀₀ Gln Lys Tyr Leu Val₂₀₅ Gln Val Arg Cys
 Lys₂₁₀ Pro Asp His Gly Tyr₂₁₅ Trp Ser Ala Trp Ser₂₂₀ Pro Ala Thr Phe Ile
 Gln₂₂₅ Ile Pro Ser Asp₂₃₀ Phe Thr Met Asn Asp₂₃₅ Thr Thr Val Trp Ile₂₄₀ Ser
 Val Ala Val₂₄₅ Leu Ser Ala Val Ile Cys₂₅₀ Leu Ile Ile Val Trp₂₅₅ Ala Val
 Ala Leu Lys₂₆₀ Gly Tyr Ser Met Val₂₆₅ Thr Cys Ile Phe Pro₂₇₀ Pro Val Pro
 Gly Pro₂₇₅ Lys Ile Lys Gly Phe₂₈₀ Asp Ala His Leu Leu₂₈₅ Glu Lys Gly Lys
 Ser₂₉₀ Glu Glu Leu Leu Ser₂₉₅ Ala Leu Gly Cys Gln₃₀₀ Asp Phe Pro Pro Thr

10172w001_SEQ

Ser Asp Tyr Glu Asp Leu Leu Val Glu Tyr Leu Glu Val Asp Asp Ser
 305 310 315 320
 Glu Asp Gln His Leu Met Ser Val His Ser Lys Glu His Pro Ser Gln
 325 330 335
 Gly Met Lys Pro Thr Tyr Leu Asp Pro Asp Thr Asp Ser Gly Arg Gly
 340 345 350
 Ser Cys Asp Ser Pro Ser Leu Leu Ser Glu Lys Cys Glu Glu Pro Gln
 355 360 365
 Ala Asn Pro Ser Thr Phe Tyr Asp Pro Glu Val Ile Glu Lys Pro Glu
 370 375 380
 Asn Pro Glu Thr Thr His Thr Trp Asp Pro Gln Cys Ile Ser Met Glu
 385 390 395 400
 Gly Lys Ile Pro Tyr Phe His Ala Gly Gly Ser Lys Cys Ser Thr Trp
 405 410 415
 Pro Leu Pro Gln Pro Ser Gln His Asn Pro Arg Ser Ser Tyr His Asn
 420 425 430
 Ile Thr Asp Val Cys Glu Leu Ala Val Gly Pro Ala Gly Ala Pro Ala
 435 440 445
 Thr Leu Leu Asn Glu Ala Gly Lys Asp Ala Leu Lys Ser Ser Gln Thr
 450 455 460
 Ile Lys Ser Arg Glu Glu Gly Lys Ala Thr Gln Gln Arg Glu Val Glu
 465 470 475 480
 Ser Phe His Ser Glu Thr Asp Gln Asp Thr Pro Trp Leu Leu Pro Gln
 485 490 495
 Glu Lys Thr Pro Phe Gly Ser Ala Lys Pro Leu Asp Tyr Val Glu Ile
 500 505 510
 His Lys Val Asn Lys Asp Gly Ala Leu Ser Leu Leu Pro Lys Gln Arg
 515 520 525
 Glu Asn Ser Gly Lys Pro Lys Lys Pro Gly Thr Pro Glu Asn Asn Lys
 530 535 540
 Glu Tyr Ala Lys Val Ser Gly Val Met Asp Asn Asn Ile Leu Val Leu
 545 550 555 560
 Val Pro Asp Pro His Ala Lys Asn Val Ala Cys Phe Glu Glu Ser Ala
 565 570 575

10172W001_SEQ

Lys Glu Ala Pro Pro Ser Leu Glu Gln Asn Gln Ala Glu Lys Ala Leu
580 585 590

Ala Asn Phe Thr Ala Thr Ser Ser Lys Cys Arg Leu Gln Leu Gly Gly
595 600 605

Leu Asp Tyr Leu Asp Pro Ala Cys Phe Thr His Ser Phe His
610 615 620

<210> 12

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<212> PRT

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