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<151> 2012-09-25

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Ser Phe Arg Leu Gly Gln His Leu Tyr Gly Thr Tyr Arg Thr Arg Leu
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Val₁₄₅ Tyr Phe Ser Phe Phe₁₅₀ Asn Thr Ser Phe Pro₁₅₅ Ala Cys Ser Ser₁₆₀ Leu

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Pro₃₀₅ Ala Ser Gly Glu₃₁₀ Val Arg Arg Tyr Thr₃₁₅ Ser Thr Leu Leu Pro₃₂₀

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aaaactctag	gagaaggcga	atttgaaaaa	gtggtcaagg	caacggcctt	ccatctgaaa	1980
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atcaaattgt	atggggcctg	cagccaggat	ggcccgtctc	tcctcatcgt	ggagtacgcc	2160
aaatacggct	ccctgcgggg	cttcctccgc	gagagccgca	aagtggggcc	tggctacctg	2220
ggcagtgag	gcagccgcaa	ctccagctcc	ctggaccacc	cggatgagcg	ggccctcacc	2280
atgggagacc	tcattctcatt	tgcttgagag	atctcacagg	ggatgcagta	tctggccgag	2340
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aggagccagg	gtcggattcc	agttaaattg	atggcaattg	aatccctttt	tgatcatatc	2520
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 tggaagcagg agccggacaa aaggccggtg tttgcggaca tcagcaaaga cctggagaag 2760
 atgatggtta agaggagaga ctacttgga cttgcggcgt ccactccatc tgactccctg 2820
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Pro Leu Asn Glu Ser Glu Val Asn Arg Gly Asp Lys Tyr Ile Ala Lys
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Phe Gln Gly Glu Asp Thr Val Val Ile Ala Ser Lys Pro Tyr Ala Phe
 35 40 45

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

Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
 85 90 95

Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
 100 105 110

Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
 115 120 125

His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
 130 135 140

Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn
 145 150 155 160

Arg Val Pro Tyr Val Lys Gly Cys Thr Glu Arg Phe Val Cys Ser Pro
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JPOXMLDOC01-seq1

165

170

175

Asp Glu Val Met Asp Thr Ile Asp Glu Gly Lys Ser Asn Arg His Val
180 185 190

Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Ile Phe
195 200 205

Leu Ile Asn Val Lys Gln Glu Asn Thr Gln Thr Glu Gln Lys Leu Ser
210 215 220

Gly Lys Leu Tyr Leu Val Asp Leu Ala Gly Ser Glu Lys Val Ser Lys
225 230 235 240

Thr Gly Ala Glu Gly Ala Val Leu Asp Glu Ala Lys Asn Ile Asn Lys
245 250 255

Ser Leu Ser Ala Leu Gly Asn Val Ile Ser Ala Leu Ala Glu Gly Ser
260 265 270

Thr Tyr Val Pro Tyr Arg Asp Ser Lys Met Thr Arg Ile Leu Gln Asp
275 280 285

Ser Leu Gly Gly Asn Cys Arg Thr Thr Ile Val Ile Cys Cys Ser Pro
290 295 300

Ser Ser Tyr Asn Glu Ser Glu Thr Lys Ser Thr Leu Leu Phe Gly Gln
305 310 315 320

Arg Ala Lys Thr Ile Lys Asn Thr Val Cys Val Asn Val Glu Leu Thr
325 330 335

Ala Glu Gln Trp Lys Lys Lys Tyr Glu Lys Glu Lys Glu Lys Asn Lys
340 345 350

Ile Leu Arg Asn Thr Ile Gln Trp Leu Glu Asn Glu Leu Asn Arg Trp
355 360 365

Arg Asn Gly Glu Thr Val Pro Ile Asp Glu Gln Phe Asp Lys Glu Lys
370 375 380

Ala Asn Leu Glu Ala Phe Thr Val Asp Lys Asp Ile Thr Leu Thr Asn
385 390 395 400

Asp Lys Pro Ala Thr Ala Ile Gly Val Ile Gly Asn Phe Thr Asp Ala
405 410 415

Glu Arg Arg Lys Cys Glu Glu Glu Ile Ala Lys Leu Tyr Lys Gln Leu
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Asp Asp Lys Asp Glu Glu Ile Asn Gln Gln Ser Gln Leu Val Glu Lys

JPOXMLDOC01-seq1

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Leu Lys Thr Gln Met Leu Asp Gln Glu Glu Leu Leu Ala Ser Thr Arg
 450 455 460

Arg Asp Gln Asp Asn Met Gln Ala Glu Leu Asn Arg Leu Gln Ala Glu
 465 470 475 480

Asn Asp Ala Ser Lys Glu Glu Val Lys Glu Val Leu Gln Ala Leu Glu
 485 490 495

Glu Leu Ala Val Asn Tyr Asp Gln Lys Ser Gln Glu Val Glu Asp Lys
 500 505 510

Thr Lys Glu Tyr Glu Leu Leu Ser Asp Glu Leu Asn Gln Lys Ser Ala
 515 520 525

Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr
 530 535 540

Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
 545 550 555 560

Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Glu
 565 570 575

Asp Pro Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly Lys Thr
 580 585 590

Leu Gly Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala Phe His
 595 600 605

Leu Lys Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met Leu Lys
 610 615 620

Glu Asn Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu Phe Asn
 625 630 635 640

Val Leu Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr Gly Ala
 645 650 655

Cys Ser Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala Lys Tyr
 660 665 670

Gly Ser Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly Pro Gly
 675 680 685

Tyr Leu Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp His Pro
 690 695 700

Asp Glu Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala Trp Gln
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JPOXMLDOC01-seq1

705 710 715 720

Ile Ser Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val His Arg
 725 730 735

Asp Leu Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys Met Lys
 740 745 750

Ile Ser Asp Phe Gly Leu Ser Arg Asp Val Tyr Glu Glu Asp Ser Tyr
 755 760 765

Val Lys Arg Ser Gln Gly Arg Ile Pro Val Lys Trp Met Ala Ile Glu
 770 775 780

Ser Leu Phe Asp His Ile Tyr Thr Thr Gln Ser Asp Val Trp Ser Phe
 785 790 795 800

Gly Val Leu Leu Trp Glu Ile Val Thr Leu Gly Gly Asn Pro Tyr Pro
 805 810 815

Gly Ile Pro Pro Glu Arg Leu Phe Asn Leu Leu Lys Thr Gly His Arg
 820 825 830

Met Glu Arg Pro Asp Asn Cys Ser Glu Glu Met Tyr Arg Leu Met Leu
 835 840 845

Gln Cys Trp Lys Gln Glu Pro Asp Lys Arg Pro Val Phe Ala Asp Ile
 850 855 860

Ser Lys Asp Leu Glu Lys Met Met Val Lys Arg Arg Asp Tyr Leu Asp
 865 870 875 880

Leu Ala Ala Ser Thr Pro Ser Asp Ser Leu Ile Tyr Asp Asp Gly Leu
 885 890 895

Ser Glu Glu Glu Thr Pro Leu Val Asp Cys Asn Asn Ala Pro Leu Pro
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Arg Ala Leu Pro Ser Thr Trp Ile Glu Asn Lys Leu Tyr Gly Arg Ile
 915 920 925

Ser His Ala Phe Thr Arg Phe
 930 935

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Phe Gln Gly Glu Asp Thr Val Val Ile Ala Ser Lys Pro Tyr Ala Phe
35 40 45

Asp Arg Val Phe Gln Ser Ser Thr Ser Gln Glu Gln Val Tyr Asn Asp
50 55 60

Cys Ala Lys Lys Ile Val Lys Asp Val Leu Glu Gly Tyr Asn Gly Thr
65 70 75 80

Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
85 90 95

Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
100 105 110

Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
115 120 125

His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
130 135 140

Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn
145 150 155 160

Arg Val Pro Tyr Val Lys Gly Cys Thr Glu Arg Phe Val Cys Ser Pro
165 170 175

Asp Glu Val Met Asp Thr Ile Asp Glu Gly Lys Ser Asn Arg His Val
180 185 190

Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Ile Phe
195 200 205

Leu Ile Asn Val Lys Gln Glu Asn Thr Gln Thr Glu Gln Lys Leu Ser
210 215 220

Gly Lys Leu Tyr Leu Val Asp Leu Ala Gly Ser Glu Lys Val Ser Lys
225 230 235 240

Thr Gly Ala Glu Gly Ala Val Leu Asp Glu Ala Lys Asn Ile Asn Lys
245 250 255

Ser Leu Ser Ala Leu Gly Asn Val Ile Ser Ala Leu Ala Glu Gly Ser
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JPOXMLDOC01-seq1

260

265

270

Thr Tyr Val₂₇₅ Pro Tyr Arg Asp Ser₂₈₀ Lys Met Thr Arg Ile₂₈₅ Leu Gln Asp
 Ser Leu₂₉₀ Gly Gly Asn Cys Arg₂₉₅ Thr Thr Ile Val Ile₃₀₀ Cys Cys Ser Pro
 Ser₃₀₅ Ser Tyr Asn Glu Ser₃₁₀ Glu Thr Lys Ser Thr₃₁₅ Leu Leu Phe Gly Gln₃₂₀
 Arg Ala Lys Thr Ile₃₂₅ Lys Asn Thr Val Cys₃₃₀ Val Asn Val Glu Leu₃₃₅ Thr
 Ala Glu Gln Trp₃₄₀ Lys Lys Lys Tyr Glu₃₄₅ Lys Glu Lys Glu Lys₃₅₀ Asn Lys
 Ile Leu Arg₃₅₅ Asn Thr Ile Gln Trp₃₆₀ Leu Glu Asn Glu Leu₃₆₅ Asn Arg Trp
 Arg Asn₃₇₀ Gly Glu Thr Val Pro₃₇₅ Ile Asp Glu Gln Phe₃₈₀ Asp Lys Glu Lys
 Ala₃₈₅ Asn Leu Glu Ala Phe₃₉₀ Thr Val Asp Lys Asp₃₉₅ Ile Thr Leu Thr Asn₄₀₀
 Asp Lys Pro Ala Thr₄₀₅ Ala Ile Gly Val Ile₄₁₀ Gly Asn Phe Thr Asp₄₁₅ Ala
 Glu Arg Arg Lys₄₂₀ Cys Glu Glu Glu Ile₄₂₅ Ala Lys Leu Tyr Lys₄₃₀ Gln Leu
 Asp Asp Lys₄₃₅ Asp Glu Glu Ile Asn₄₄₀ Gln Gln Ser Gln Leu₄₄₅ Val Glu Lys
 Leu Lys₄₅₀ Thr Gln Met Leu Asp₄₅₅ Gln Glu Glu Leu Leu₄₆₀ Ala Ser Thr Arg
 Arg₄₆₅ Asp Gln Asp Asn Met₄₇₀ Gln Ala Glu Leu Asn₄₇₅ Arg Leu Gln Ala Glu₄₈₀
 Asn Asp Ala Ser Lys₄₈₅ Glu Glu Val Lys Glu₄₉₀ Val Leu Gln Ala Leu₄₉₅ Glu
 Glu Leu Ala Val₅₀₀ Asn Tyr Asp Gln Lys₅₀₅ Ser Gln Glu Val Glu₅₁₀ Asp Lys
 Thr Lys Glu₅₁₅ Tyr Glu Leu Leu Ser₅₂₀ Asp Glu Leu Asn Gln₅₂₅ Lys Ser Ala
 Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr

JPOXMLDOC01-seq1

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Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
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Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Gln
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Pro Glu Gly Thr Gly Met Ile Asp Glu Glu Phe Thr Val Ala Arg Leu
 580 585 590

Tyr Ile Ser Lys Met Lys Ser Glu Val Lys Thr Met Val Lys Arg Cys
 595 600 605

Lys Gln Leu Glu Ser Thr Gln Thr Glu Ser Asn Lys Lys Met Glu Glu
 610 615 620

Asn Glu Lys Glu Leu Ala Ala Cys Gln Leu Arg Ile Ser Gln Glu Asp
 625 630 635 640

Pro Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly Lys Thr Leu
 645 650 655

Gly Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala Phe His Leu
 660 665 670

Lys Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met Leu Lys Glu
 675 680 685

Asn Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu Phe Asn Val
 690 695 700

Leu Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr Gly Ala Cys
 705 710 715 720

Ser Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala Lys Tyr Gly
 725 730 735

Ser Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly Pro Gly Tyr
 740 745 750

Leu Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp His Pro Asp
 755 760 765

Glu Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala Trp Gln Ile
 770 775 780

Ser Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val His Arg Asp
 785 790 795 800

Leu Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys Met Lys Ile

815

Pro Leu Asn Glu Ser Glu Val Asn Arg Gly Asp Lys Tyr Ile Ala Lys
Page 40

Phe Gln Gly Glu Asp Thr Val Val Ile Ala Ser Lys Pro Tyr Ala Phe
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 Asp Arg Val Phe Gln Ser Ser Thr Ser Gln Glu Gln Val Tyr Asn Asp
 50 55 60
 Cys Ala Lys Lys Ile Val Lys Asp Val Leu Glu Gly Tyr Asn Gly Thr
 65 70 75 80
 Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
 85 90 95
 Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
 100 105 110
 Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
 115 120 125
 His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
 130 135 140
 Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn
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 Arg Val Pro Tyr Val Lys Gly Cys Thr Glu Arg Phe Val Cys Ser Pro
 165 170 175
 Asp Glu Val Met Asp Thr Ile Asp Glu Gly Lys Ser Asn Arg His Val
 180 185 190
 Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Ile Phe
 195 200 205
 Leu Ile Asn Val Lys Gln Glu Asn Thr Gln Thr Glu Gln Lys Leu Ser
 210 215 220
 Gly Lys Leu Tyr Leu Val Asp Leu Ala Gly Ser Glu Lys Val Ser Lys
 225 230 235 240
 Thr Gly Ala Glu Gly Ala Val Leu Asp Glu Ala Lys Asn Ile Asn Lys
 245 250 255
 Ser Leu Ser Ala Leu Gly Asn Val Ile Ser Ala Leu Ala Glu Gly Ser
 260 265 270
 Thr Tyr Val Pro Tyr Arg Asp Ser Lys Met Thr Arg Ile Leu Gln Asp
 275 280 285
 Ser Leu Gly Gly Asn Cys Arg Thr Thr Ile Val Ile Cys Cys Ser Pro

JPOXMLDOC01-seq1

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Ser Ser Tyr Asn Glu Ser Glu Thr Lys Ser Thr Leu Leu Phe Gly Gln
305 310 315 320

Arg Ala Lys Thr Ile Lys Asn Thr Val Cys Val Asn Val Glu Leu Thr
325 330 335

Ala Glu Gln Trp Lys Lys Lys Tyr Glu Lys Glu Lys Glu Lys Asn Lys
340 345 350

Ile Leu Arg Asn Thr Ile Gln Trp Leu Glu Asn Glu Leu Asn Arg Trp
355 360 365

Arg Asn Gly Glu Thr Val Pro Ile Asp Glu Gln Phe Asp Lys Glu Lys
370 375 380

Ala Asn Leu Glu Ala Phe Thr Val Asp Lys Asp Ile Thr Leu Thr Asn
385 390 395 400

Asp Lys Pro Ala Thr Ala Ile Gly Val Ile Gly Asn Phe Thr Asp Ala
405 410 415

Glu Arg Arg Lys Cys Glu Glu Glu Ile Ala Lys Leu Tyr Lys Gln Leu
420 425 430

Asp Asp Lys Asp Glu Glu Ile Asn Gln Gln Ser Gln Leu Val Glu Lys
435 440 445

Leu Lys Thr Gln Met Leu Asp Gln Glu Glu Leu Leu Ala Ser Thr Arg
450 455 460

Arg Asp Gln Asp Asn Met Gln Ala Glu Leu Asn Arg Leu Gln Ala Glu
465 470 475 480

Asn Asp Ala Ser Lys Glu Glu Val Lys Glu Val Leu Gln Ala Leu Glu
485 490 495

Glu Leu Ala Val Asn Tyr Asp Gln Lys Ser Gln Glu Val Glu Asp Lys
500 505 510

Thr Lys Glu Tyr Glu Leu Leu Ser Asp Glu Leu Asn Gln Lys Ser Ala
515 520 525

Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr
530 535 540

Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
545 550 555 560

Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Gln

835

840

845

Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met Leu Lys Glu Asn
850 855 860

Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu Phe Asn Val Leu
865 870 875 880

Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr Gly Ala Cys Ser
885 890 895

Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala Lys Tyr Gly Ser
900 905 910

Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly Pro Gly Tyr Leu
915 920 925

Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp His Pro Asp Glu
930 935 940

Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala Trp Gln Ile Ser
945 950 955 960

Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val His Arg Asp Leu
965 970 975

Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys Met Lys Ile Ser
980 985 990

Asp Phe Gly Leu Ser Arg Asp Val Tyr Glu Glu Asp Ser Tyr Val Lys
995 1000 1005

Arg Ser Gln Gly Arg Ile Pro Val Lys Trp Met Ala Ile Glu Ser
1010 1015 1020

Leu Phe Asp His Ile Tyr Thr Thr Gln Ser Asp Val Trp Ser Phe
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Gly Val Leu Leu Trp Glu Ile Val Thr Leu Gly Gly Asn Pro Tyr
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Pro Gly Ile Pro Pro Glu Arg Leu Phe Asn Leu Leu Lys Thr Gly
1055 1060 1065

His Arg Met Glu Arg Pro Asp Asn Cys Ser Glu Glu Met Tyr Arg
1070 1075 1080

Leu Met Leu Gln Cys Trp Lys Gln Glu Pro Asp Lys Arg Pro Val
1085 1090 1095

Phe Ala Asp Ile Ser Lys Asp Leu Glu Lys Met Met Val Lys Arg

JPOXMLDOC01-seq1

1100

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Ile Tyr Asp Asp Gly Leu Ser Glu Glu Glu Thr Pro Leu Val Asp
1130 1135 1140

Cys Asn Asn Ala Pro Leu Pro Arg Ala Leu Pro Ser Thr Trp Ile
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Glu Asn Lys Leu Tyr Gly Arg Ile Ser His Ala Phe Thr Arg Phe
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35 40 45

Asp Arg Val Phe Gln Ser Ser Thr Ser Gln Glu Gln Val Tyr Asn Asp
50 55 60

Cys Ala Lys Lys Ile Val Lys Asp Val Leu Glu Gly Tyr Asn Gly Thr
65 70 75 80

Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
85 90 95

Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
100 105 110

Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
115 120 125

His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
130 135 140

Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn

JPOXMLDOC01-seq1

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 Asp Glu Val Met₁₈₀ Asp Thr Ile Asp Glu₁₈₅ Gly Lys Ser Asn Arg₁₉₀ His Val
 Ala Val Thr₁₉₅ Asn Met Asn Glu His₂₀₀ Ser Ser Arg Ser His₂₀₅ Ser Ile Phe
 Leu Ile₂₁₀ Asn Val Lys Gln Glu₂₁₅ Asn Thr Gln Thr Glu₂₂₀ Gln Lys Leu Ser
 Gly₂₂₅ Lys Leu Tyr Leu Val₂₃₀ Asp Leu Ala Gly Ser₂₃₅ Glu Lys Val Ser Lys₂₄₀
 Thr Gly Ala Glu Gly₂₄₅ Ala Val Leu Asp Glu₂₅₀ Ala Lys Asn Ile Asn₂₅₅ Lys
 Ser Leu Ser Ala₂₆₀ Leu Gly Asn Val Ile₂₆₅ Ser Ala Leu Ala Glu₂₇₀ Gly Ser
 Thr Tyr Val₂₇₅ Pro Tyr Arg Asp Ser₂₈₀ Lys Met Thr Arg Ile₂₈₅ Leu Gln Asp
 Ser Leu₂₉₀ Gly Gly Asn Cys Arg₂₉₅ Thr Thr Ile Val Ile₃₀₀ Cys Cys Ser Pro
 Ser₃₀₅ Ser Tyr Asn Glu Ser₃₁₀ Glu Thr Lys Ser Thr₃₁₅ Leu Leu Phe Gly Gln₃₂₀
 Arg Ala Lys Thr Ile₃₂₅ Lys Asn Thr Val Cys₃₃₀ Val Asn Val Glu Leu₃₃₅ Thr
 Ala Glu Gln Trp₃₄₀ Lys Lys Lys Tyr Glu₃₄₅ Lys Glu Lys Glu Lys₃₅₀ Asn Lys
 Ile Leu Arg₃₅₅ Asn Thr Ile Gln Trp₃₆₀ Leu Glu Asn Glu Leu₃₆₅ Asn Arg Trp
 Arg Asn₃₇₀ Gly Glu Thr Val Pro₃₇₅ Ile Asp Glu Gln Phe₃₈₀ Asp Lys Glu Lys
 Ala₃₈₅ Asn Leu Glu Ala Phe₃₉₀ Thr Val Asp Lys Asp₃₉₅ Ile Thr Leu Thr Asn₄₀₀
 Asp Lys Pro Ala Thr₄₀₅ Ala Ile Gly Val Ile₄₁₀ Gly Asn Phe Thr Asp₄₁₅ Ala
 Glu Arg Arg Lys Cys Glu Glu Glu Ile Ala Lys Leu Tyr Lys Gln Leu
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JPOXMLDOC01-seq1

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425

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 Glu Leu Ala Val Asn Tyr Asp Gln Lys Ser Gln Glu Val Glu Asp Lys
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 Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr
 530 535 540
 Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
 545 550 555 560
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 Pro Glu Gly Thr Gly Met Ile Asp Glu Glu Phe Thr Val Ala Arg Leu
 580 585 590
 Tyr Ile Ser Lys Met Lys Ser Glu Val Lys Thr Met Val Lys Arg Cys
 595 600 605
 Lys Gln Leu Glu Ser Thr Gln Thr Glu Ser Asn Lys Lys Met Glu Glu
 610 615 620
 Asn Glu Lys Glu Leu Ala Ala Cys Gln Leu Arg Ile Ser Gln His Glu
 625 630 635 640
 Ala Lys Ile Lys Ser Leu Thr Glu Tyr Leu Gln Asn Val Glu Gln Lys
 645 650 655
 Lys Arg Gln Leu Glu Glu Ser Val Asp Ala Leu Ser Glu Glu Leu Val
 660 665 670
 Gln Leu Arg Ala Gln Glu Lys Val His Glu Met Glu Lys Glu His Leu
 675 680 685
 Asn Lys Val Gln Thr Ala Asn Glu Val Lys Gln Ala Val Glu Gln Gln

690

695

Ile Gln Ser His Arg Glu Thr His Gln Lys Gln Ile Ser Ser Leu Arg
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Asp Glu Val Glu Ala Lys Ala Lys Leu Ile Thr Asp Leu Gln Asp Gln
725 730 735

Asn Gln Lys Met Met Leu Glu Gln Glu Arg Leu Arg Val Glu His Glu
740 745 750

Lys Leu Lys Ala Thr Asp Gln Glu Lys Ser Arg Lys Leu His Glu Leu
755 760 765

Thr Val Met Gln Asp Arg Arg Glu Gln Ala Arg Gln Asp Leu Lys Gly
770 775 780

Leu Glu Glu Thr Val Ala Lys Glu Leu Gln Thr Leu His Asn Leu Arg
785 790 795 800

Lys Leu Phe Val Gln Asp Leu Ala Thr Arg Val Lys Lys Ser Ala Glu
805 810 815

Ile Asp Ser Asp Asp Thr Gly Gly Ser Ala Ala Gln Lys Gln Lys Ile
820 825 830

Ser Phe Leu Glu Asn Asn Leu Glu Gln Leu Thr Lys Val His Lys Gln
835 840 845

Glu Asp Pro Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly Lys
850 855 860

Thr Leu Gly Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala Phe
865 870 875 880

His Leu Lys Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met Leu
885 890 895

Lys Glu Asn Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu Phe
900 905 910

Asn Val Leu Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr Gly
915 920 925

Ala Cys Ser Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala Lys
930 935 940

Tyr Gly Ser Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly Pro
945 950 955 960

Gly Tyr Leu Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp His

Pro Asp Glu Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala Trp
 980 985 990

Gln Ile Ser Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val His
 995 1000 1005

Arg Asp Leu Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys
 1010 1015 1020

Met Lys Ile Ser Asp Phe Gly Leu Ser Arg Asp Val Tyr Glu Glu
 1025 1030 1035

Asp Ser Tyr Val Lys Arg Ser Gln Gly Arg Ile Pro Val Lys Trp
 1040 1045 1050

Met Ala Ile Glu Ser Leu Phe Asp His Ile Tyr Thr Thr Gln Ser
 1055 1060 1065

Asp Val Trp Ser Phe Gly Val Leu Leu Trp Glu Ile Val Thr Leu
 1070 1075 1080

Gly Gly Asn Pro Tyr Pro Gly Ile Pro Pro Glu Arg Leu Phe Asn
 1085 1090 1095

Leu Leu Lys Thr Gly His Arg Met Glu Arg Pro Asp Asn Cys Ser
 1100 1105 1110

Glu Glu Met Tyr Arg Leu Met Leu Gln Cys Trp Lys Gln Glu Pro
 1115 1120 1125

Asp Lys Arg Pro Val Phe Ala Asp Ile Ser Lys Asp Leu Glu Lys
 1130 1135 1140

Met Met Val Lys Arg Arg Asp Tyr Leu Asp Leu Ala Ala Ser Thr
 1145 1150 1155

Pro Ser Asp Ser Leu Ile Tyr Asp Asp Gly Leu Ser Glu Glu Glu
 1160 1165 1170

Thr Pro Leu Val Asp Cys Asn Asn Ala Pro Leu Pro Arg Ala Leu
 1175 1180 1185

Pro Ser Thr Trp Ile Glu Asn Lys Leu Tyr Gly Arg Ile Ser His
 1190 1195 1200

Ala Phe Thr Arg Phe
 1205

<210> 19

JPOXMLDOC01-seq1

<211> 1366
<212> PRT
<213> Homo sapiens

<220>
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<223> KIF5B-RET (K24;R11 variant4)

<400> 19

Met Ala Asp Leu Ala Glu Cys Asn Ile Lys Val Met Cys Arg Phe Arg
1 5 10 15

Pro Leu Asn Glu Ser Glu Val Asn Arg Gly Asp Lys Tyr Ile Ala Lys
20 25 30

Phe Gln Gly Glu Asp Thr Val Val Ile Ala Ser Lys Pro Tyr Ala Phe
35 40 45

Asp Arg Val Phe Gln Ser Ser Thr Ser Gln Glu Gln Val Tyr Asn Asp
50 55 60

Cys Ala Lys Lys Ile Val Lys Asp Val Leu Glu Gly Tyr Asn Gly Thr
65 70 75 80

Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
85 90 95

Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
100 105 110

Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
115 120 125

His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
130 135 140

Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn
145 150 155 160

Arg Val Pro Tyr Val Lys Gly Cys Thr Glu Arg Phe Val Cys Ser Pro
165 170 175

Asp Glu Val Met Asp Thr Ile Asp Glu Gly Lys Ser Asn Arg His Val
180 185 190

Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Ile Phe
195 200 205

Leu Ile Asn Val Lys Gln Glu Asn Thr Gln Thr Glu Gln Lys Leu Ser
210 215 220

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

JPOXMLDOC01-seq1

500

505

510

Thr Lys Glu Tyr Glu Leu Leu Ser Asp Glu Leu Asn Gln Lys Ser Ala
 515 520 525

Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr
 530 535 540

Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
 545 550 555 560

Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Gln
 565 570 575

Pro Glu Gly Thr Gly Met Ile Asp Glu Glu Phe Thr Val Ala Arg Leu
 580 585 590

Tyr Ile Ser Lys Met Lys Ser Glu Val Lys Thr Met Val Lys Arg Cys
 595 600 605

Lys Gln Leu Glu Ser Thr Gln Thr Glu Ser Asn Lys Lys Met Glu Glu
 610 615 620

Asn Glu Lys Glu Leu Ala Ala Cys Gln Leu Arg Ile Ser Gln His Glu
 625 630 635 640

Ala Lys Ile Lys Ser Leu Thr Glu Tyr Leu Gln Asn Val Glu Gln Lys
 645 650 655

Lys Arg Gln Leu Glu Glu Ser Val Asp Ala Leu Ser Glu Glu Leu Val
 660 665 670

Gln Leu Arg Ala Gln Glu Lys Val His Glu Met Glu Lys Glu His Leu
 675 680 685

Asn Lys Val Gln Thr Ala Asn Glu Val Lys Gln Ala Val Glu Gln Gln
 690 695 700

Ile Gln Ser His Arg Glu Thr His Gln Lys Gln Ile Ser Ser Leu Arg
 705 710 715 720

Asp Glu Val Glu Ala Lys Ala Lys Leu Ile Thr Asp Leu Gln Asp Gln
 725 730 735

Asn Gln Lys Met Met Leu Glu Gln Glu Arg Leu Arg Val Glu His Glu
 740 745 750

Lys Leu Lys Ala Thr Asp Gln Glu Lys Ser Arg Lys Leu His Glu Leu
 755 760 765

Thr Val Met Gln Asp Arg Arg Glu Gln Ala Arg Gln Asp Leu Lys Gly
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770

775

780

Leu Glu Glu Thr Val Ala Lys Glu Leu Gln Thr Leu His Asn Leu Arg
 785 790 795 800

Lys Leu Phe Val Gln Asp Leu Ala Thr Arg Val Lys Lys Ser Ala Glu
 805 810 815

Ile Asp Ser Asp Asp Thr Gly Gly Ser Ala Ala Gln Lys Gln Lys Ile
 820 825 830

Ser Phe Leu Glu Asn Asn Leu Glu Gln Leu Thr Lys Val His Lys Gln
 835 840 845

Leu Val Arg Asp Asn Ala Asp Leu Arg Cys Glu Leu Pro Lys Leu Glu
 850 855 860

Lys Arg Leu Arg Ala Thr Ala Glu Arg Val Lys Ala Leu Glu Ser Ala
 865 870 875 880

Leu Lys Glu Ala Lys Glu Asn Ala Ser Arg Asp Arg Lys Arg Tyr Gln
 885 890 895

Gln Glu Val Asp Arg Ile Lys Glu Ala Val Arg Ser Lys Asn Met Ala
 900 905 910

Arg Arg Gly His Ser Ala Gln Ile Asp Pro Leu Cys Asp Glu Leu Cys
 915 920 925

Arg Thr Val Ile Ala Ala Ala Val Leu Phe Ser Phe Ile Val Ser Val
 930 935 940

Leu Leu Ser Ala Phe Cys Ile His Cys Tyr His Lys Phe Ala His Lys
 945 950 955 960

Pro Pro Ile Ser Ser Ala Glu Met Thr Phe Arg Arg Pro Ala Gln Ala
 965 970 975

Phe Pro Val Ser Tyr Ser Ser Ser Gly Ala Arg Arg Pro Ser Leu Asp
 980 985 990

Ser Met Glu Asn Gln Val Ser Val Asp Ala Phe Lys Ile Leu Glu Asp
 995 1000 1005

Pro Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly Lys Thr
 1010 1015 1020

Leu Gly Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala Phe
 1025 1030 1035

His Leu Lys Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met

JPOXMLDOC01-seq1

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Leu	Lys	Glu	Asn	Ala	Ser	Pro	Ser	Glu	Leu	Arg	Asp	Leu
	1055					1060					1065	Ser
Glu	Phe	Asn	Val	Leu	Lys	Gln	Val	Asn	His	Pro	His	Val
	1070					1075					1080	Ile
												Lys
Leu	Tyr	Gly	Ala	Cys	Ser	Gln	Asp	Gly	Pro	Leu	Leu	Leu
	1085					1090					1095	Ile
												Val
Glu	Tyr	Ala	Lys	Tyr	Gly	Ser	Leu	Arg	Gly	Phe	Leu	Arg
	1100					1105					1110	Glu
												Ser
Arg	Lys	Val	Gly	Pro	Gly	Tyr	Leu	Gly	Ser	Gly	Gly	Ser
	1115					1120					1125	Arg
												Asn
Ser	Ser	Ser	Leu	Asp	His	Pro	Asp	Glu	Arg	Ala	Leu	Thr
	1130					1135					1140	Met
												Gly
Asp	Leu	Ile	Ser	Phe	Ala	Trp	Gln	Ile	Ser	Gln	Gly	Met
	1145					1150					1155	Gln
												Tyr
Leu	Ala	Glu	Met	Lys	Leu	Val	His	Arg	Asp	Leu	Ala	Ala
	1160					1165					1170	Arg
												Asn
Ile	Leu	Val	Ala	Glu	Gly	Arg	Lys	Met	Lys	Ile	Ser	Asp
	1175					1180					1185	Phe
												Gly
Leu	Ser	Arg	Asp	Val	Tyr	Glu	Glu	Asp	Ser	Tyr	Val	Lys
	1190					1195					1200	Arg
												Ser
Gln	Gly	Arg	Ile	Pro	Val	Lys	Trp	Met	Ala	Ile	Glu	Ser
	1205					1210					1215	Leu
												Phe
Asp	His	Ile	Tyr	Thr	Thr	Gln	Ser	Asp	Val	Trp	Ser	Phe
	1220					1225					1230	Gly
												Val
Leu	Leu	Trp	Glu	Ile	Val	Thr	Leu	Gly	Gly	Asn	Pro	Tyr
	1235					1240					1245	Pro
												Gly
Ile	Pro	Pro	Glu	Arg	Leu	Phe	Asn	Leu	Leu	Lys	Thr	Gly
	1250					1255					1260	His
												Arg
Met	Glu	Arg	Pro	Asp	Asn	Cys	Ser	Glu	Glu	Met	Tyr	Arg
	1265					1270					1275	Leu
												Met
Leu	Gln	Cys	Trp	Lys	Gln	Glu	Pro	Asp	Lys	Arg	Pro	Val
	1280					1285					1290	Phe
												Ala
Asp	Ile	Ser	Lys	Asp	Leu	Glu	Lys	Met	Met	Val	Lys	Arg
												Arg
												Asp

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1295

1300

1305

Tyr Leu Asp Leu Ala Ala Ser Thr Pro Ser Asp Ser Leu Ile Tyr
1310 1315 1320

Asp Asp Gly Leu Ser Glu Glu Glu Thr Pro Leu Val Asp Cys Asn
1325 1330 1335

Asn Ala Pro Leu Pro Arg Ala Leu Pro Ser Thr Trp Ile Glu Asn
1340 1345 1350

Lys Leu Tyr Gly Arg Ile Ser His Ala Phe Thr Arg Phe
1355 1360 1365

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Met Ala Asp Leu Ala Glu Cys Asn Ile Lys Val Met Cys Arg Phe Arg
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Pro Leu Asn Glu Ser Glu Val Asn Arg Gly Asp Lys Tyr Ile Ala Lys
20 25 30

Phe Gln Gly Glu Asp Thr Val Val Ile Ala Ser Lys Pro Tyr Ala Phe
35 40 45

Asp Arg Val Phe Gln Ser Ser Thr Ser Gln Glu Gln Val Tyr Asn Asp
50 55 60

Cys Ala Lys Lys Ile Val Lys Asp Val Leu Glu Gly Tyr Asn Gly Thr
65 70 75 80

Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
85 90 95

Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
100 105 110

Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
115 120 125

His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
130 135 140

Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn

JPOXMLDOC01-seq1

145 150 155 160
 Arg Val Pro Tyr Val₁₆₅ Lys Gly Cys Thr Glu₁₇₀ Arg Phe Val Cys Ser₁₇₅ Pro
 Asp Glu Val Met₁₈₀ Asp Thr Ile Asp Glu₁₈₅ Gly Lys Ser Asn Arg₁₉₀ His Val
 Ala Val Thr₁₉₅ Asn Met Asn Glu His₂₀₀ Ser Ser Arg Ser His₂₀₅ Ser Ile Phe
 Leu Ile₂₁₀ Asn Val Lys Gln Glu₂₁₅ Asn Thr Gln Thr Glu₂₂₀ Gln Lys Leu Ser
 Gly₂₂₅ Lys Leu Tyr Leu Val₂₃₀ Asp Leu Ala Gly Ser₂₃₅ Glu Lys Val Ser Lys₂₄₀
 Thr Gly Ala Glu Gly₂₄₅ Ala Val Leu Asp Glu₂₅₀ Ala Lys Asn Ile Asn₂₅₅ Lys
 Ser Leu Ser Ala₂₆₀ Leu Gly Asn Val Ile₂₆₅ Ser Ala Leu Ala Glu₂₇₀ Gly Ser
 Thr Tyr Val₂₇₅ Pro Tyr Arg Asp Ser₂₈₀ Lys Met Thr Arg Ile₂₈₅ Leu Gln Asp
 Ser Leu₂₉₀ Gly Gly Asn Cys Arg₂₉₅ Thr Thr Ile Val Ile₃₀₀ Cys Cys Ser Pro
 Ser₃₀₅ Ser Tyr Asn Glu Ser₃₁₀ Glu Thr Lys Ser Thr₃₁₅ Leu Leu Phe Gly Gln₃₂₀
 Arg Ala Lys Thr Ile₃₂₅ Lys Asn Thr Val Cys₃₃₀ Val Asn Val Glu Leu₃₃₅ Thr
 Ala Glu Gln Trp₃₄₀ Lys Lys Lys Tyr Glu₃₄₅ Lys Glu Lys Glu Lys₃₅₀ Asn Lys
 Ile Leu Arg₃₅₅ Asn Thr Ile Gln Trp₃₆₀ Leu Glu Asn Glu Leu₃₆₅ Asn Arg Trp
 Arg Asn₃₇₀ Gly Glu Thr Val Pro₃₇₅ Ile Asp Glu Gln Phe₃₈₀ Asp Lys Glu Lys
 Ala₃₈₅ Asn Leu Glu Ala Phe₃₉₀ Thr Val Asp Lys Asp₃₉₅ Ile Thr Leu Thr Asn₄₀₀
 Asp Lys Pro Ala Thr₄₀₅ Ala Ile Gly Val Ile₄₁₀ Gly Asn Phe Thr Asp₄₁₅ Ala
 Glu Arg Arg Lys Cys Glu Glu Glu Ile Ala Lys Leu Tyr Lys Gln Leu
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JPOXMLDOC01-seq1

420

425

430

Asp Asp Lys Asp Glu Glu Ile Asn Gln Gln Ser Gln Leu Val Glu Lys
 435 440 445

Leu Lys Thr Gln Met Leu Asp Gln Glu Glu Leu Leu Ala Ser Thr Arg
 450 455 460

Arg Asp Gln Asp Asn Met Gln Ala Glu Leu Asn Arg Leu Gln Ala Glu
 465 470 475 480

Asn Asp Ala Ser Lys Glu Glu Val Lys Glu Val Leu Gln Ala Leu Glu
 485 490 495

Glu Leu Ala Val Asn Tyr Asp Gln Lys Ser Gln Glu Val Glu Asp Lys
 500 505 510

Thr Lys Glu Tyr Glu Leu Leu Ser Asp Glu Leu Asn Gln Lys Ser Ala
 515 520 525

Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr
 530 535 540

Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
 545 550 555 560

Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Glu
 565 570 575

Asp Pro Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly Lys Thr
 580 585 590

Leu Gly Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala Phe His
 595 600 605

Leu Lys Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met Leu Lys
 610 615 620

Glu Asn Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu Phe Asn
 625 630 635 640

Val Leu Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr Gly Ala
 645 650 655

Cys Ser Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala Lys Tyr
 660 665 670

Gly Ser Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly Pro Gly
 675 680 685

Tyr Leu Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp His Pro
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JPOXMLDOC01-seq1

690

695

700

Asp Glu Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala Trp Gln
 705 710 715 720

Ile Ser Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val His Arg
 725 730 735

Asp Leu Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys Met Lys
 740 745 750

Ile Ser Asp Phe Gly Leu Ser Arg Asp Val Tyr Glu Glu Asp Ser Tyr
 755 760 765

Val Lys Arg Ser Gln Gly Arg Ile Pro Val Lys Trp Met Ala Ile Glu
 770 775 780

Ser Leu Phe Asp His Ile Tyr Thr Thr Gln Ser Asp Val Trp Ser Phe
 785 790 795 800

Gly Val Leu Leu Trp Glu Ile Val Thr Leu Gly Gly Asn Pro Tyr Pro
 805 810 815

Gly Ile Pro Pro Glu Arg Leu Phe Asn Leu Leu Lys Thr Gly His Arg
 820 825 830

Met Glu Arg Pro Asp Asn Cys Ser Glu Glu Met Tyr Arg Leu Met Leu
 835 840 845

Gln Cys Trp Lys Gln Glu Pro Asp Lys Arg Pro Val Phe Ala Asp Ile
 850 855 860

Ser Lys Asp Leu Glu Lys Met Met Val Lys Arg Arg Asp Tyr Leu Asp
 865 870 875 880

Leu Ala Ala Ser Thr Pro Ser Asp Ser Leu Ile Tyr Asp Asp Gly Leu
 885 890 895

Ser Glu Glu Glu Thr Pro Leu Val Asp Cys Asn Asn Ala Pro Leu Pro
 900 905 910

Arg Ala Leu Pro Ser Thr Trp Ile Glu Asn Lys Leu Tyr Gly Met Ser
 915 920 925

Asp Pro Asn Trp Pro Gly Glu Ser Pro Val Pro Leu Thr Arg Ala Asp
 930 935 940

Gly Thr Asn Thr Gly Phe Pro Arg Tyr Pro Asn Asp Ser Val Tyr Ala
 945 950 955 960

Asn Trp Met Leu Ser Pro Ser Ala Ala Lys Leu Met Asp Thr Phe Asp

Ser

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 <212> PRT
 <213> Homo sapiens

<220>
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 <223> KIF5B-RET (K16;R12 variant2)

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Met Ala Asp Leu Ala Glu Cys Asn Ile Lys Val Met Cys Arg Phe Arg
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Pro Leu Asn Glu Ser Glu Val Asn Arg Gly Asp Lys Tyr Ile Ala Lys
 20 25 30

Phe Gln Gly Glu Asp Thr Val Val Ile Ala Ser Lys Pro Tyr Ala Phe
 35 40 45

Asp Arg Val Phe Gln Ser Ser Thr Ser Gln Glu Gln Val Tyr Asn Asp
 50 55 60

Cys Ala Lys Lys Ile Val Lys Asp Val Leu Glu Gly Tyr Asn Gly Thr
 65 70 75 80

Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
 85 90 95

Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
 100 105 110

Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
 115 120 125

His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
 130 135 140

Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn
 145 150 155 160

Arg Val Pro Tyr Val Lys Gly Cys Thr Glu Arg Phe Val Cys Ser Pro
 165 170 175

Asp Glu Val Met Asp Thr Ile Asp Glu Gly Lys Ser Asn Arg His Val
 180 185 190

Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Ile Phe
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JPOXMLDOC01-seq1

195

200

205

Leu Ile Asn Val Lys Gln Glu Asn Thr Gln Thr Glu Gln Lys Leu Ser
 210 215 220

Gly Lys Leu Tyr Leu Val Asp Leu Ala Gly Ser Glu Lys Val Ser Lys
 225 230 235 240

Thr Gly Ala Glu Gly Ala Val Leu Asp Glu Ala Lys Asn Ile Asn Lys
 245 250 255

Ser Leu Ser Ala Leu Gly Asn Val Ile Ser Ala Leu Ala Glu Gly Ser
 260 265 270

Thr Tyr Val Pro Tyr Arg Asp Ser Lys Met Thr Arg Ile Leu Gln Asp
 275 280 285

Ser Leu Gly Gly Asn Cys Arg Thr Thr Ile Val Ile Cys Cys Ser Pro
 290 295 300

Ser Ser Tyr Asn Glu Ser Glu Thr Lys Ser Thr Leu Leu Phe Gly Gln
 305 310 315 320

Arg Ala Lys Thr Ile Lys Asn Thr Val Cys Val Asn Val Glu Leu Thr
 325 330 335

Ala Glu Gln Trp Lys Lys Lys Tyr Glu Lys Glu Lys Glu Lys Asn Lys
 340 345 350

Ile Leu Arg Asn Thr Ile Gln Trp Leu Glu Asn Glu Leu Asn Arg Trp
 355 360 365

Arg Asn Gly Glu Thr Val Pro Ile Asp Glu Gln Phe Asp Lys Glu Lys
 370 375 380

Ala Asn Leu Glu Ala Phe Thr Val Asp Lys Asp Ile Thr Leu Thr Asn
 385 390 395 400

Asp Lys Pro Ala Thr Ala Ile Gly Val Ile Gly Asn Phe Thr Asp Ala
 405 410 415

Glu Arg Arg Lys Cys Glu Glu Glu Ile Ala Lys Leu Tyr Lys Gln Leu
 420 425 430

Asp Asp Lys Asp Glu Glu Ile Asn Gln Gln Ser Gln Leu Val Glu Lys
 435 440 445

Leu Lys Thr Gln Met Leu Asp Gln Glu Glu Leu Leu Ala Ser Thr Arg
 450 455 460

Arg Asp Gln Asp Asn Met Gln Ala Glu Leu Asn Arg Leu Gln Ala Glu
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JPOXMLDOC01-seq1

465 470 475 480
 Asn Asp Ala Ser Lys Glu Glu Val Lys Glu Val Leu Gln Ala Leu Glu
 485 490 495
 Glu Leu Ala Val Asn Tyr Asp Gln Lys Ser Gln Glu Val Glu Asp Lys
 500 505 510
 Thr Lys Glu Tyr Glu Leu Leu Ser Asp Glu Leu Asn Gln Lys Ser Ala
 515 520 525
 Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr
 530 535 540
 Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
 545 550 555 560
 Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Gln
 565 570 575
 Pro Glu Gly Thr Gly Met Ile Asp Glu Glu Phe Thr Val Ala Arg Leu
 580 585 590
 Tyr Ile Ser Lys Met Lys Ser Glu Val Lys Thr Met Val Lys Arg Cys
 595 600 605
 Lys Gln Leu Glu Ser Thr Gln Thr Glu Ser Asn Lys Lys Met Glu Glu
 610 615 620
 Asn Glu Lys Glu Leu Ala Ala Cys Gln Leu Arg Ile Ser Gln Glu Asp
 625 630 635 640
 Pro Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly Lys Thr Leu
 645 650 655
 Gly Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala Phe His Leu
 660 665 670
 Lys Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met Leu Lys Glu
 675 680 685
 Asn Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu Phe Asn Val
 690 695 700
 Leu Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr Gly Ala Cys
 705 710 715 720
 Ser Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala Lys Tyr Gly
 725 730 735
 Ser Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly Pro Gly Tyr
 740 745 750
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JPOXMLDOC01-seq1

740

745

750

Leu Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp His Pro Asp
 755 760 765

Glu Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala Trp Gln Ile
 770 775 780

Ser Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val His Arg Asp
 785 790 795 800

Leu Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys Met Lys Ile
 805 810 815

Ser Asp Phe Gly Leu Ser Arg Asp Val Tyr Glu Glu Asp Ser Tyr Val
 820 825 830

Lys Arg Ser Gln Gly Arg Ile Pro Val Lys Trp Met Ala Ile Glu Ser
 835 840 845

Leu Phe Asp His Ile Tyr Thr Thr Gln Ser Asp Val Trp Ser Phe Gly
 850 855 860

Val Leu Leu Trp Glu Ile Val Thr Leu Gly Gly Asn Pro Tyr Pro Gly
 865 870 875 880

Ile Pro Pro Glu Arg Leu Phe Asn Leu Leu Lys Thr Gly His Arg Met
 885 890 895

Glu Arg Pro Asp Asn Cys Ser Glu Glu Met Tyr Arg Leu Met Leu Gln
 900 905 910

Cys Trp Lys Gln Glu Pro Asp Lys Arg Pro Val Phe Ala Asp Ile Ser
 915 920 925

Lys Asp Leu Glu Lys Met Met Val Lys Arg Arg Asp Tyr Leu Asp Leu
 930 935 940

Ala Ala Ser Thr Pro Ser Asp Ser Leu Ile Tyr Asp Asp Gly Leu Ser
 945 950 955 960

Glu Glu Glu Thr Pro Leu Val Asp Cys Asn Asn Ala Pro Leu Pro Arg
 965 970 975

Ala Leu Pro Ser Thr Trp Ile Glu Asn Lys Leu Tyr Gly Met Ser Asp
 980 985 990

Pro Asn Trp Pro Gly Glu Ser Pro Val Pro Leu Thr Arg Ala Asp Gly
 995 1000 1005

Thr Asn Thr Gly Phe Pro Arg Tyr Pro Asn Asp Ser Val Tyr Ala

JPOXMLDOC01-seq1

1010

1015

1020

Asn Trp Met Leu Ser Pro Ser Ala Ala Lys Leu Met Asp Thr Phe
1025 1030 1035

Asp Ser
1040

<210> 22
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<212> PRT
<213> Homo sapiens

<220>
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<223> KIF5B-RET (K22;R12 variant2)

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Met Ala Asp Leu Ala Glu Cys Asn Ile Lys Val Met Cys Arg Phe Arg
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Pro Leu Asn Glu Ser Glu Val Asn Arg Gly Asp Lys Tyr Ile Ala Lys
20 25 30

Phe Gln Gly Glu Asp Thr Val Val Ile Ala Ser Lys Pro Tyr Ala Phe
35 40 45

Asp Arg Val Phe Gln Ser Ser Thr Ser Gln Glu Gln Val Tyr Asn Asp
50 55 60

Cys Ala Lys Lys Ile Val Lys Asp Val Leu Glu Gly Tyr Asn Gly Thr
65 70 75 80

Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
85 90 95

Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
100 105 110

Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
115 120 125

His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
130 135 140

Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn
145 150 155 160

Arg Val Pro Tyr Val Lys Gly Cys Thr Glu Arg Phe Val Cys Ser Pro
165 170 175

Asp Glu Val Met Asp Thr Ile Asp Glu Gly Lys Ser Asn Arg His Val
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JPOXMLDOC01-seq1

180

185

190

Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Ile Phe
 195 200 205
 Leu Ile Asn Val Lys Gln Glu Asn Thr Gln Thr Glu Gln Lys Leu Ser
 210 215 220
 Gly Lys Leu Tyr Leu Val Asp Leu Ala Gly Ser Glu Lys Val Ser Lys
 225 230 235 240
 Thr Gly Ala Glu Gly Ala Val Leu Asp Glu Ala Lys Asn Ile Asn Lys
 245 250 255
 Ser Leu Ser Ala Leu Gly Asn Val Ile Ser Ala Leu Ala Glu Gly Ser
 260 265 270
 Thr Tyr Val Pro Tyr Arg Asp Ser Lys Met Thr Arg Ile Leu Gln Asp
 275 280 285
 Ser Leu Gly Gly Asn Cys Arg Thr Thr Ile Val Ile Cys Cys Ser Pro
 290 295 300
 Ser Ser Tyr Asn Glu Ser Glu Thr Lys Ser Thr Leu Leu Phe Gly Gln
 305 310 315 320
 Arg Ala Lys Thr Ile Lys Asn Thr Val Cys Val Asn Val Glu Leu Thr
 325 330 335
 Ala Glu Gln Trp Lys Lys Lys Tyr Glu Lys Glu Lys Glu Lys Asn Lys
 340 345 350
 Ile Leu Arg Asn Thr Ile Gln Trp Leu Glu Asn Glu Leu Asn Arg Trp
 355 360 365
 Arg Asn Gly Glu Thr Val Pro Ile Asp Glu Gln Phe Asp Lys Glu Lys
 370 375 380
 Ala Asn Leu Glu Ala Phe Thr Val Asp Lys Asp Ile Thr Leu Thr Asn
 385 390 395 400
 Asp Lys Pro Ala Thr Ala Ile Gly Val Ile Gly Asn Phe Thr Asp Ala
 405 410 415
 Glu Arg Arg Lys Cys Glu Glu Glu Ile Ala Lys Leu Tyr Lys Gln Leu
 420 425 430
 Asp Asp Lys Asp Glu Glu Ile Asn Gln Gln Ser Gln Leu Val Glu Lys
 435 440 445
 Leu Lys Thr Gln Met Leu Asp Gln Glu Glu Leu Leu Ala Ser Thr Arg

JPOXMLDOC01-seq1

450

455

460

Arg Asp Gln Asp Asn Met Gln Ala Glu Leu Asn Arg Leu Gln Ala Glu
465 470 475 480

Asn Asp Ala Ser Lys Glu Glu Val Lys Glu Val Leu Gln Ala Leu Glu
485 490 495

Glu Leu Ala Val Asn Tyr Asp Gln Lys Ser Gln Glu Val Glu Asp Lys
500 505 510

Thr Lys Glu Tyr Glu Leu Leu Ser Asp Glu Leu Asn Gln Lys Ser Ala
515 520 525

Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr
530 535 540

Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
545 550 555 560

Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Gln
565 570 575

Pro Glu Gly Thr Gly Met Ile Asp Glu Glu Phe Thr Val Ala Arg Leu
580 585 590

Tyr Ile Ser Lys Met Lys Ser Glu Val Lys Thr Met Val Lys Arg Cys
595 600 605

Lys Gln Leu Glu Ser Thr Gln Thr Glu Ser Asn Lys Lys Met Glu Glu
610 615 620

Asn Glu Lys Glu Leu Ala Ala Cys Gln Leu Arg Ile Ser Gln His Glu
625 630 635 640

Ala Lys Ile Lys Ser Leu Thr Glu Tyr Leu Gln Asn Val Glu Gln Lys
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Lys Arg Gln Leu Glu Glu Ser Val Asp Ala Leu Ser Glu Glu Leu Val
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Gln Leu Arg Ala Gln Glu Lys Val His Glu Met Glu Lys Glu His Leu
675 680 685

Asn Lys Val Gln Thr Ala Asn Glu Val Lys Gln Ala Val Glu Gln Gln
690 695 700

Ile Gln Ser His Arg Glu Thr His Gln Lys Gln Ile Ser Ser Leu Arg
705 710 715 720

Asp Glu Val Glu Ala Lys Ala Lys Leu Ile Thr Asp Leu Gln Asp Gln

JPOXMLDOC01-seq1

725

730

735

Asn Gln Lys Met Met Leu Glu Gln Glu Arg Leu Arg Val Glu His Glu
740 745 750

Lys Leu Lys Ala Thr Asp Gln Glu Lys Ser Arg Lys Leu His Glu Leu
755 760 765

Thr Val Met Gln Asp Arg Arg Glu Gln Ala Arg Gln Asp Leu Lys Gly
770 775 780

Leu Glu Glu Thr Val Ala Lys Glu Leu Gln Thr Leu His Asn Leu Arg
785 790 795 800

Lys Leu Phe Val Gln Asp Leu Ala Thr Arg Val Lys Lys Glu Asp Pro
805 810 815

Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly Lys Thr Leu Gly
820 825 830

Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala Phe His Leu Lys
835 840 845

Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met Leu Lys Glu Asn
850 855 860

Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu Phe Asn Val Leu
865 870 875 880

Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr Gly Ala Cys Ser
885 890 895

Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala Lys Tyr Gly Ser
900 905 910

Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly Pro Gly Tyr Leu
915 920 925

Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp His Pro Asp Glu
930 935 940

Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala Trp Gln Ile Ser
945 950 955 960

Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val His Arg Asp Leu
965 970 975

Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys Met Lys Ile Ser
980 985 990

Asp Phe Gly Leu Ser Arg Asp Val Tyr Glu Glu Asp Ser Tyr Val Lys
Page 66

Arg Ser Gln Gly Arg Ile Pro Val Lys Trp Met Ala Ile Glu Ser
1010 1015 1020

Leu Phe Asp His Ile Tyr Thr Thr Gln Ser Asp Val Trp Ser Phe
1025 1030 1035

Gly Val Leu Leu Trp Glu Ile Val Thr Leu Gly Gly Asn Pro Tyr
1040 1045 1050

Pro Gly Ile Pro Pro Glu Arg Leu Phe Asn Leu Leu Lys Thr Gly
1055 1060 1065

His Arg Met Glu Arg Pro Asp Asn Cys Ser Glu Glu Met Tyr Arg
1070 1075 1080

Leu Met Leu Gln Cys Trp Lys Gln Glu Pro Asp Lys Arg Pro Val
1085 1090 1095

Phe Ala Asp Ile Ser Lys Asp Leu Glu Lys Met Met Val Lys Arg
1100 1105 1110

Arg Asp Tyr Leu Asp Leu Ala Ala Ser Thr Pro Ser Asp Ser Leu
1115 1120 1125

Ile Tyr Asp Asp Gly Leu Ser Glu Glu Glu Thr Pro Leu Val Asp
1130 1135 1140

Cys Asn Asn Ala Pro Leu Pro Arg Ala Leu Pro Ser Thr Trp Ile
1145 1150 1155

Glu Asn Lys Leu Tyr Gly Met Ser Asp Pro Asn Trp Pro Gly Glu
1160 1165 1170

Ser Pro Val Pro Leu Thr Arg Ala Asp Gly Thr Asn Thr Gly Phe
1175 1180 1185

Pro Arg Tyr Pro Asn Asp Ser Val Tyr Ala Asn Trp Met Leu Ser
1190 1195 1200

Pro Ser Ala Ala Lys Leu Met Asp Thr Phe Asp Ser
1205 1210 1215

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

Asp Arg Val Phe Gln Ser Ser Thr Ser Gln Glu Gln Val Tyr Asn Asp
50 55 60

Cys Ala Lys Lys Ile Val Lys Asp Val Leu Glu Gly Tyr Asn Gly Thr
65 70 75 80

Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met Glu
85 90 95

Gly Lys Leu His Asp Pro Glu Gly Met Gly Ile Ile Pro Arg Ile Val
100 105 110

Gln Asp Ile Phe Asn Tyr Ile Tyr Ser Met Asp Glu Asn Leu Glu Phe
115 120 125

His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg Asp
130 135 140

Leu Leu Asp Val Ser Lys Thr Asn Leu Ser Val His Glu Asp Lys Asn
145 150 155 160

Arg Val Pro Tyr Val Lys Gly Cys Thr Glu Arg Phe Val Cys Ser Pro
165 170 175

Asp Glu Val Met Asp Thr Ile Asp Glu Gly Lys Ser Asn Arg His Val
180 185 190

Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Ile Phe
195 200 205

Leu Ile Asn Val Lys Gln Glu Asn Thr Gln Thr Glu Gln Lys Leu Ser
210 215 220

Gly Lys Leu Tyr Leu Val Asp Leu Ala Gly Ser Glu Lys Val Ser Lys
225 230 235 240

Thr Gly Ala Glu Gly Ala Val Leu Asp Glu Ala Lys Asn Ile Asn Lys
245 250 255

Ser Leu Ser Ala Leu Gly Asn Val Ile Ser Ala Leu Ala Glu Gly Ser
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JPOXMLDOC01-seq1

260

265

270

Thr Tyr Val₂₇₅ Pro Tyr Arg Asp Ser₂₈₀ Lys Met Thr Arg Ile₂₈₅ Leu Gln Asp
 Ser Leu₂₉₀ Gly Gly Asn Cys Arg₂₉₅ Thr Thr Ile Val Ile₃₀₀ Cys Cys Ser Pro
 Ser₃₀₅ Ser Tyr Asn Glu Ser₃₁₀ Glu Thr Lys Ser Thr₃₁₅ Leu Leu Phe Gly Gln₃₂₀
 Arg Ala Lys Thr Ile₃₂₅ Lys Asn Thr Val Cys₃₃₀ Val Asn Val Glu Leu₃₃₅ Thr
 Ala Glu Gln Trp₃₄₀ Lys Lys Lys Tyr Glu₃₄₅ Lys Glu Lys Glu Lys₃₅₀ Asn Lys
 Ile Leu Arg₃₅₅ Asn Thr Ile Gln Trp₃₆₀ Leu Glu Asn Glu Leu₃₆₅ Asn Arg Trp
 Arg Asn₃₇₀ Gly Glu Thr Val Pro₃₇₅ Ile Asp Glu Gln Phe₃₈₀ Asp Lys Glu Lys
 Ala₃₈₅ Asn Leu Glu Ala Phe₃₉₀ Thr Val Asp Lys Asp₃₉₅ Ile Thr Leu Thr Asn₄₀₀
 Asp Lys Pro Ala Thr₄₀₅ Ala Ile Gly Val Ile₄₁₀ Gly Asn Phe Thr Asp₄₁₅ Ala
 Glu Arg Arg Lys₄₂₀ Cys Glu Glu Glu Ile₄₂₅ Ala Lys Leu Tyr Lys₄₃₀ Gln Leu
 Asp Asp Lys₄₃₅ Asp Glu Glu Ile Asn₄₄₀ Gln Gln Ser Gln Leu₄₄₅ Val Glu Lys
 Leu Lys₄₅₀ Thr Gln Met Leu Asp₄₅₅ Gln Glu Glu Leu Leu₄₆₀ Ala Ser Thr Arg
 Arg₄₆₅ Asp Gln Asp Asn Met₄₇₀ Gln Ala Glu Leu Asn₄₇₅ Arg Leu Gln Ala Glu₄₈₀
 Asn Asp Ala Ser Lys₄₈₅ Glu Glu Val Lys Glu₄₉₀ Val Leu Gln Ala Leu₄₉₅ Glu
 Glu Leu Ala Val₅₀₀ Asn Tyr Asp Gln Lys₅₀₅ Ser Gln Glu Val Glu₅₁₀ Asp Lys
 Thr Lys Glu₅₁₅ Tyr Glu Leu Leu Ser₅₂₀ Asp Glu Leu Asn Gln₅₂₅ Lys Ser Ala
 Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr

JPOXMLDOC01-seq1

530

535

540

Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
 545 550 555 560

Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Gln
 565 570 575

Pro Glu Gly Thr Gly Met Ile Asp Glu Glu Phe Thr Val Ala Arg Leu
 580 585 590

Tyr Ile Ser Lys Met Lys Ser Glu Val Lys Thr Met Val Lys Arg Cys
 595 600 605

Lys Gln Leu Glu Ser Thr Gln Thr Glu Ser Asn Lys Lys Met Glu Glu
 610 615 620

Asn Glu Lys Glu Leu Ala Ala Cys Gln Leu Arg Ile Ser Gln His Glu
 625 630 635 640

Ala Lys Ile Lys Ser Leu Thr Glu Tyr Leu Gln Asn Val Glu Gln Lys
 645 650 655

Lys Arg Gln Leu Glu Glu Ser Val Asp Ala Leu Ser Glu Glu Leu Val
 660 665 670

Gln Leu Arg Ala Gln Glu Lys Val His Glu Met Glu Lys Glu His Leu
 675 680 685

Asn Lys Val Gln Thr Ala Asn Glu Val Lys Gln Ala Val Glu Gln Gln
 690 695 700

Ile Gln Ser His Arg Glu Thr His Gln Lys Gln Ile Ser Ser Leu Arg
 705 710 715 720

Asp Glu Val Glu Ala Lys Ala Lys Leu Ile Thr Asp Leu Gln Asp Gln
 725 730 735

Asn Gln Lys Met Met Leu Glu Gln Glu Arg Leu Arg Val Glu His Glu
 740 745 750

Lys Leu Lys Ala Thr Asp Gln Glu Lys Ser Arg Lys Leu His Glu Leu
 755 760 765

Thr Val Met Gln Asp Arg Arg Glu Gln Ala Arg Gln Asp Leu Lys Gly
 770 775 780

Leu Glu Glu Thr Val Ala Lys Glu Leu Gln Thr Leu His Asn Leu Arg
 785 790 795 800

Lys Leu Phe Val Gln Asp Leu Ala Thr Arg Val Lys Lys Ser Ala Glu
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JPOXMLDOC01-seq1

805

810

815

Ile Asp Ser Asp Asp Thr Gly Gly Ser Ala Ala Gln Lys Gln Lys Ile
 820 825 830

Ser Phe Leu Glu Asn Asn Leu Glu Gln Leu Thr Lys Val His Lys Gln
 835 840 845

Glu Asp Pro Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly Lys
 850 855 860

Thr Leu Gly Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala Phe
 865 870 875 880

His Leu Lys Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met Leu
 885 890 895

Lys Glu Asn Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu Phe
 900 905 910

Asn Val Leu Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr Gly
 915 920 925

Ala Cys Ser Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala Lys
 930 935 940

Tyr Gly Ser Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly Pro
 945 950 955 960

Gly Tyr Leu Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp His
 965 970 975

Pro Asp Glu Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala Trp
 980 985 990

Gln Ile Ser Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val His
 995 1000 1005

Arg Asp Leu Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys
 1010 1015 1020

Met Lys Ile Ser Asp Phe Gly Leu Ser Arg Asp Val Tyr Glu Glu
 1025 1030 1035

Asp Ser Tyr Val Lys Arg Ser Gln Gly Arg Ile Pro Val Lys Trp
 1040 1045 1050

Met Ala Ile Glu Ser Leu Phe Asp His Ile Tyr Thr Thr Gln Ser
 1055 1060 1065

Asp Val Trp Ser Phe Gly Val Leu Leu Trp Glu Ile Val Thr Leu
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JPOXMLDOC01-seq1

1070

1075

1080

Gly Gly Asn Pro Tyr Pro Gly Ile Pro Pro Glu Arg Leu Phe Asn
1085 1090 1095

Leu Leu Lys Thr Gly His Arg Met Glu Arg Pro Asp Asn Cys Ser
1100 1105 1110

Glu Glu Met Tyr Arg Leu Met Leu Gln Cys Trp Lys Gln Glu Pro
1115 1120 1125

Asp Lys Arg Pro Val Phe Ala Asp Ile Ser Lys Asp Leu Glu Lys
1130 1135 1140

Met Met Val Lys Arg Arg Asp Tyr Leu Asp Leu Ala Ala Ser Thr
1145 1150 1155

Pro Ser Asp Ser Leu Ile Tyr Asp Asp Gly Leu Ser Glu Glu Glu
1160 1165 1170

Thr Pro Leu Val Asp Cys Asn Asn Ala Pro Leu Pro Arg Ala Leu
1175 1180 1185

Pro Ser Thr Trp Ile Glu Asn Lys Leu Tyr Gly Met Ser Asp Pro
1190 1195 1200

Asn Trp Pro Gly Glu Ser Pro Val Pro Leu Thr Arg Ala Asp Gly
1205 1210 1215

Thr Asn Thr Gly Phe Pro Arg Tyr Pro Asn Asp Ser Val Tyr Ala
1220 1225 1230

Asn Trp Met Leu Ser Pro Ser Ala Ala Lys Leu Met Asp Thr Phe
1235 1240 1245

Asp Ser
1250

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<212> PRT
<213> Homo sapiens

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

JPOXMLDOC01-seq1

290

295

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Ser Ser Tyr Asn Glu Ser Glu Thr Lys Ser Thr Leu Leu Phe Gly Gln
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Arg Ala Lys Thr Ile Lys Asn Thr Val Cys Val Asn Val Glu Leu Thr
 325 330 335

Ala Glu Gln Trp Lys Lys Lys Tyr Glu Lys Glu Lys Glu Lys Asn Lys
 340 345 350

Ile Leu Arg Asn Thr Ile Gln Trp Leu Glu Asn Glu Leu Asn Arg Trp
 355 360 365

Arg Asn Gly Glu Thr Val Pro Ile Asp Glu Gln Phe Asp Lys Glu Lys
 370 375 380

Ala Asn Leu Glu Ala Phe Thr Val Asp Lys Asp Ile Thr Leu Thr Asn
 385 390 395 400

Asp Lys Pro Ala Thr Ala Ile Gly Val Ile Gly Asn Phe Thr Asp Ala
 405 410 415

Glu Arg Arg Lys Cys Glu Glu Glu Ile Ala Lys Leu Tyr Lys Gln Leu
 420 425 430

Asp Asp Lys Asp Glu Glu Ile Asn Gln Gln Ser Gln Leu Val Glu Lys
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Leu Lys Thr Gln Met Leu Asp Gln Glu Glu Leu Leu Ala Ser Thr Arg
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Arg Asp Gln Asp Asn Met Gln Ala Glu Leu Asn Arg Leu Gln Ala Glu
 465 470 475 480

Asn Asp Ala Ser Lys Glu Glu Val Lys Glu Val Leu Gln Ala Leu Glu
 485 490 495

Glu Leu Ala Val Asn Tyr Asp Gln Lys Ser Gln Glu Val Glu Asp Lys
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Thr Lys Glu Tyr Glu Leu Leu Ser Asp Glu Leu Asn Gln Lys Ser Ala
 515 520 525

Thr Leu Ala Ser Ile Asp Ala Glu Leu Gln Lys Leu Lys Glu Met Thr
 530 535 540

Asn His Gln Lys Lys Arg Ala Ala Glu Met Met Ala Ser Leu Leu Lys
 545 550 555 560

Asp Leu Ala Glu Ile Gly Ile Ala Val Gly Asn Asn Asp Val Lys Phe
 Page 74

Ala His Lys Pro Pro Ile Ser Ser Ala Glu Met Thr Phe Arg Arg Pro
580 585 590

Ala Gln Ala Phe Pro Val Ser Tyr Ser Ser Ser Gly Ala Arg Arg Pro
595 600 605

Ser Leu Asp Ser Met Glu Asn Gln Val Ser Val Asp Ala Phe Lys Ile
610 615 620

Leu Glu Asp Pro Lys Trp Glu Phe Pro Arg Lys Asn Leu Val Leu Gly
625 630 635 640

Lys Thr Leu Gly Glu Gly Glu Phe Gly Lys Val Val Lys Ala Thr Ala
645 650 655

Phe His Leu Lys Gly Arg Ala Gly Tyr Thr Thr Val Ala Val Lys Met
660 665 670

Leu Lys Glu Asn Ala Ser Pro Ser Glu Leu Arg Asp Leu Leu Ser Glu
675 680 685

Phe Asn Val Leu Lys Gln Val Asn His Pro His Val Ile Lys Leu Tyr
690 695 700

Gly Ala Cys Ser Gln Asp Gly Pro Leu Leu Leu Ile Val Glu Tyr Ala
705 710 715 720

Lys Tyr Gly Ser Leu Arg Gly Phe Leu Arg Glu Ser Arg Lys Val Gly
725 730 735

Pro Gly Tyr Leu Gly Ser Gly Gly Ser Arg Asn Ser Ser Ser Leu Asp
740 745 750

His Pro Asp Glu Arg Ala Leu Thr Met Gly Asp Leu Ile Ser Phe Ala
755 760 765

Trp Gln Ile Ser Gln Gly Met Gln Tyr Leu Ala Glu Met Lys Leu Val
770 775 780

His Arg Asp Leu Ala Ala Arg Asn Ile Leu Val Ala Glu Gly Arg Lys
785 790 795 800

Met Lys Ile Ser Asp Phe Gly Leu Ser Arg Asp Val Tyr Glu Glu Asp
805 810 815

Ser Tyr Val Lys Arg Ser Gln Gly Arg Ile Pro Val Lys Trp Met Ala
820 825 830

Ile Glu Ser Leu Phe Asp His Ile Tyr Thr Thr Gln Ser Asp Val Trp

Ser Phe Gly Val Leu Leu Trp Glu Ile Val Thr Leu Gly Gly Asn Pro
850 855 860

Tyr Pro Gly Ile Pro Pro Glu Arg Leu Phe Asn Leu Leu Lys Thr Gly
865 870 875 880

His Arg Met Glu Arg Pro Asp Asn Cys Ser Glu Glu Met Tyr Arg Leu
885 890 895

Met Leu Gln Cys Trp Lys Gln Glu Pro Asp Lys Arg Pro Val Phe Ala
900 905 910

Asp Ile Ser Lys Asp Leu Glu Lys Met Met Val Lys Arg Arg Asp Tyr
915 920 925

Leu Asp Leu Ala Ala Ser Thr Pro Ser Asp Ser Leu Ile Tyr Asp Asp
930 935 940

Gly Leu Ser Glu Glu Glu Thr Pro Leu Val Asp Cys Asn Asn Ala Pro
945 950 955 960

Leu Pro Arg Ala Leu Pro Ser Thr Trp Ile Glu Asn Lys Leu Tyr Gly
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Arg Ile Ser His Ala Phe Thr Arg Phe
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 Met Tyr Arg Leu Met Leu Gln Cys Trp Lys Gln Glu Pro Asp Lys Arg
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Asn Asn Ala₄₃₅ Pro Leu Pro Arg Ala₄₄₀ Leu Pro Ser Thr Trp₄₄₅ Ile Glu Asn

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Ile Val₅₀ Ile Ser Pro Phe Arg₅₅ Leu Glu Glu Leu Thr₆₀ Asn Arg Leu Ala

Ser Leu Gln Gln Glu Asn₇₀ Lys Val Leu Lys Ile₇₅ Glu Leu Glu Thr Tyr₈₀

Lys Leu Lys Cys Lys₈₅ Ala Leu Gln Glu Glu₉₀ Asn Arg Asp Leu Arg₉₅ Lys

Ala Ser Val Thr Ile Glu Asp Pro Lys Trp Glu Phe Pro Arg Lys Asn
Page 80

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 Lys₃₀₅ Trp Met Ala Ile Glu₃₁₀ Ser Leu Phe Asp His₃₁₅ Ile Tyr Thr Thr Gln₃₂₀
 Ser Asp Val Trp Ser₃₂₅ Phe Gly Val Leu Leu₃₃₀ Trp Glu Ile Val Thr₃₃₅ Leu
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ctaagcaaat	aggcaaaaga	catgttgga	atgtagtata	gtacttgaaa	cagtcactat	2820
catagggata	attggtgcat	cctgtgtaaa	tggaagctga	gcttgacacc	tggtgctttt	2880
aagtagggat	aaagtcattc	tctcactgca	agcacagcat	acctgtacct	ccaaaagtga	2940
cgtttttagtg	aacaggccgt	tttcaacact	tgtgccttgg	gggtgttcatt	gaagctttgt	3000
gaaaactact	gatgttttct	cagtctcctt	aaagttacgt	ccatgcttta	aaatgtctgt	3060
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<213> Homo sapiens

<220>
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Leu Leu Arg Cys Ser Asp Ala Arg Arg Asp Leu Glu Leu Ala Ile Gly
35 40 45

Gly Val Leu Arg Ala Glu Gln Gln Ile Lys Asp Asn Leu Arg Glu Val
50 55 60

Lys Ala Gln Ile His Ser Cys Ile Ser Arg His Leu Glu Cys Leu Arg
65 70 75 80

Ser Arg Glu Val Trp Leu Tyr Glu Gln Val Asp Leu Ile Tyr Gln Leu
85 90 95

Lys Glu Glu Thr Leu Gln Gln Gln Ala Gln Gln Leu Tyr Ser Leu Leu
100 105 110

Gly Gln Phe Asn Cys Leu Thr His Gln Leu Glu Cys Thr Gln Asn Lys
115 120 125

Asp Leu Ala Asn Gln Val Ser Val Cys Leu Glu Arg Leu Gly Ser Leu
130 135 140

Thr Leu Lys Pro Glu Asp Ser Thr Val Leu Leu Phe Glu Ala Asp Thr
145 150 155 160

Ile Thr Leu Arg Gln Thr Ile Thr Thr Phe Gly Ser Leu Lys Thr Ile
165 170 175

Gln Ile Pro Glu His Leu Met Ala His Ala Ser Ser Ala Asn Ile Gly
180 185 190

Pro Phe Leu Glu Lys Arg Gly Cys Ile Ser Met Pro Glu Gln Lys Ser
195 200 205

Ala Ser Gly Ile Val Ala Val Pro Phe Ser Glu Trp Leu Leu Gly Ser
210 215 220

Lys Pro Ala Ser Gly Tyr Gln Ala Pro Tyr Ile Pro Ser Thr Asp Pro
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225 230 235 240

Ser Arg Ala Cys Asn Phe Phe Asn Asn Val Gly Gly Asn Leu Lys Gly
260 265 270

Leu Glu Asn Trp Leu Leu Lys Ser Glu Lys Ser Ser Tyr Gln Lys Cys
275 280 285

Asn Ser His Ser Thr Thr Ser Ser Phe Ser Ile Glu Met Glu Lys Val
290 295 300

Gly Asp Gln Glu Leu Pro Asp Gln Asp Glu Met Asp Leu Ser Asp Trp
305 310 315 320

Leu Val Thr Pro **Gln** Glu Ser His Lys **Leu** Arg Lys Pro Glu **Asn** Gly
325 330 335

Ser Arg Glu Thr Ser Glu Lys Phe Lys Leu Leu Phe Gln Ser Tyr Asn
340 345 350

Val Asn Asp Trp Leu Val Lys Thr Asp Ser Cys Thr Asn Cys Gln Gly
355 360 365

Asn 370 Glu 375 Ile 380

Leu Asn Asp His Leu Glu Ala Lys Lys Pro Leu Ser Thr Pro Ser Met
385 390 395 400

Val Thr Glu Asp Trp Leu Val Gln Asn His Gln Asp Pro Cys Lys Val
405 410 415

Glu Glu Val Cys Arg Ala Asn Glu Pro Cys Thr Ser Phe Ala Glu Cys
420 425 430

Val Cys Asp Glu Asn Cys Glu Lys Glu Ala Leu Tyr Lys Trp Leu Leu
435 440 445

Lys Lys Glu Gly Lys Asp Lys Asn Gly Met Pro Val Glu Pro Lys Pro
450 455 460

Glu Pro Glu Lys His Lys Asp Ser Leu Asn Met Trp Leu Cys Pro Arg
465 470 475 480

Lys Glu Val Ile Glu Gln Thr Lys Ala Pro Lys Ala Met Thr Pro Ser
485 490 495

Arg Ile Ala Asp Ser Phe Gln Val Ile Lys Asn Ser Pro Leu Ser Glu
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JPOXMLDOC01-seq1

500

505

510

Trp Leu Ile Arg Pro Pro Tyr Lys Glu Gly Ser Pro Lys Glu Val Pro
 515 520 525
 Gly Thr Glu Asp Arg Ala Gly Lys Gln Lys Phe Lys Ser Pro Met Asn
 530 535 540
 Thr Ser Trp Cys Ser Phe Asn Thr Ala Asp Trp Val Leu Pro Gly Lys
 545 550 555 560
 Lys Met Gly Asn Leu Ser Gln Leu Ser Ser Gly Glu Asp Lys Trp Leu
 565 570 575
 Leu Arg Lys Lys Ala Gln Glu Val Leu Leu Asn Ser Pro Leu Gln Glu
 580 585 590
 Glu His Asn Phe Pro Pro Asp His Tyr Gly Leu Pro Ala Val Cys Asp
 595 600 605
 Leu Phe Ala Cys Met Gln Leu Lys Val Asp Lys Glu Lys Trp Leu Tyr
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 625 630 635 640
 Val Gly Asn Phe Gln Ile Pro Cys Gly Phe
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 <212> PRT
 <213> Homo sapiens

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 Leu Leu Arg Cys Ser Asp Ala Arg Arg Asp Leu Glu Leu Ala Ile Gly
 35 40 45
 Gly Val Leu Arg Ala Glu Gln Gln Ile Lys Asp Asn Leu Arg Glu Val
 50 55 60
 Lys Ala Gln Ile His Ser Cys Ile Ser Arg His Leu Glu Cys Leu Arg

65

70

75

80

Ser Arg Glu Val Trp₈₅ Leu Tyr Glu Gln Val₉₀ Asp Leu Ile Tyr Gln₉₅ Leu

Lys Glu Glu Thr₁₀₀ Leu Gln Gln Gln Ala₁₀₅ Gln Gln Leu Tyr Ser₁₁₀ Leu Leu

Gly Gln Phe₁₁₅ Asn Cys Leu Thr His₁₂₀ Gln Leu Glu Cys Thr₁₂₅ Gln Asn Lys

Asp Leu₁₃₀ Ala Asn Gln Val Ser₁₃₅ Val Cys Leu Glu Arg₁₄₀ Leu Gly Ser Leu

Thr₁₄₅ Leu Lys Pro Glu Asp₁₅₀ Ser Thr Val Leu₁₅₅ Phe Glu Ala Asp Thr₁₆₀

Ile Thr Leu Arg Gln₁₆₅ Thr Ile Thr Thr Phe₁₇₀ Gly Ser Leu Lys Thr₁₇₅ Ile

Gln Ile Pro Glu₁₈₀ His Leu Met Ala His₁₈₅ Ala Ser Ser Ala Asn₁₉₀ Ile Gly

Pro Phe Leu₁₉₅ Glu Lys Arg Gly Cys₂₀₀ Ile Ser Met Pro Glu₂₀₅ Gln Lys Ser

Ala Ser₂₁₀ Gly Ile Val Ala Val₂₁₅ Pro Phe Ser Glu Trp₂₂₀ Leu Leu Gly Ser

Lys₂₂₅ Pro Ala Ser Gly Tyr₂₃₀ Gln Ala Pro Tyr Ile₂₃₅ Pro Ser Thr Asp Pro₂₄₀

Gln Asp Trp Leu Thr₂₄₅ Gln Lys Gln Thr Leu₂₅₀ Glu Asn Ser Gln Thr₂₅₅ Ser

Ser Arg Ala Cys₂₆₀ Asn Phe Phe Asn Asn₂₆₅ Val Gly Gly Asn Leu₂₇₀ Lys Gly

Leu Glu Asn₂₇₅ Trp Leu Leu Lys Ser₂₈₀ Glu Lys Ser Ser Tyr₂₈₅ Gln Lys Cys

Asn Ser₂₉₀ His Ser Thr Thr Ser₂₉₅ Ser Phe Ser Ile Glu₃₀₀ Met Glu Lys Val

Gly₃₀₅ Asp Gln Glu Leu Pro₃₁₀ Asp Gln Asp Glu Met₃₁₅ Asp Leu Ser Asp Trp₃₂₀

Leu Val Thr Pro Gln₃₂₅ Glu Ser His Lys Leu₃₃₀ Arg Lys Pro Glu Asn₃₃₅ Gly

Ser Arg Glu Thr Ser Glu Lys Phe Lys Leu Leu Phe Gln Ser Tyr Asn

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345

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Val Asn Asp Trp Leu Val Lys Thr Asp Ser Cys Thr Asn Cys Gln Gly
 355 360 365
 Asn Gln Pro Lys Gly Val Glu Ile Glu Asn Leu Gly Asn Leu Lys Cys
 370 375 380
 Leu Asn Asp His Leu Glu Ala Lys Lys Pro Leu Ser Thr Pro Ser Met
 385 390 395 400
 Val Thr Glu Asp Trp Leu Val Gln Asn His Gln Asp Pro Cys Lys Val
 405 410 415
 Glu Glu Val Cys Arg Ala Asn Glu Pro Cys Thr Ser Phe Ala Glu Cys
 420 425 430
 Val Cys Asp Glu Asn Cys Glu Lys Glu Ala Leu Tyr Lys Trp Leu Leu
 435 440 445
 Lys Lys Glu Gly Lys Asp Lys Asn Gly Met Pro Val Glu Pro Lys Pro
 450 455 460
 Glu Pro Glu Lys His Lys Asp Ser Leu Asn Met Trp Leu Cys Pro Arg
 465 470 475 480
 Lys Glu Val Ile Glu Gln Thr Lys Ala Pro Lys Ala Met Thr Pro Ser
 485 490 495
 Arg Ile Ala Asp Ser Phe Gln Val Ile Lys Asn Ser Pro Leu Ser Glu
 500 505 510
 Trp Leu Ile Arg Pro Pro Tyr Lys Glu Gly Ser Pro Lys Glu Val Pro
 515 520 525
 Gly Thr Glu Asp Arg Ala Gly Lys Gln Lys Phe Lys Ser Pro Met Asn
 530 535 540
 Thr Ser Trp Cys Ser Phe Asn Thr Ala Asp Trp Val Leu Pro Gly Lys
 545 550 555 560
 Lys Met Gly Asn Leu Ser Gln Leu Ser Ser Gly Glu Asp Lys Trp Leu
 565 570 575
 Leu Arg Lys Lys Ala Gln Glu Val Leu Leu Asn Ser Pro Leu Gln Glu
 580 585 590
 Glu His Asn Phe Pro Pro Asp His Tyr Gly Leu Pro Ala Val Cys Asp
 595 600 605
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Arg Thr Pro Leu Gln Met
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20 25 30

Gly Val Leu Arg Ala Glu Gln Gln Ile Lys Asp Asn Leu Arg Glu Val
35 40 45

Lys Ala Gln Ile His Ser Cys Ile Ser Arg His Leu Glu Cys Leu Arg
50 55 60

Ser Arg Glu Val Trp Leu Tyr Glu Gln Val Asp Leu Ile Tyr Gln Leu
65 70 75 80

Lys Glu Glu Thr Leu Gln Gln Gln Ala Gln Gln Leu Tyr Ser Leu Leu
85 90 95

Gly Gln Phe Asn Cys Leu Thr His Gln Leu Glu Cys Thr Gln Asn Lys
100 105 110

Asp Leu Ala Asn Gln Val Ser Val Cys Leu Glu Arg Leu Gly Ser Leu
115 120 125

Thr Leu Lys Pro Glu Asp Ser Thr Val Leu Leu Phe Glu Ala Asp Thr
130 135 140

Ile Thr Leu Arg Gln Thr Ile Thr Thr Phe Gly Ser Leu Lys Thr Ile
145 150 155 160

Gln Ile Pro Glu His Leu Met Ala His Ala Ser Ser Ala Asn Ile Gly
165 170 175

Pro Phe Leu Glu Lys Arg Gly Cys Ile Ser Met Pro Glu Gln Lys Ser
180 185 190

Ala Ser Gly Ile Val Ala Val Pro Phe Ser Glu Trp Leu Leu Gly Ser
Page 109

195

200

205

Lys Pro Ala Ser Gly Tyr Gln Ala Pro Tyr Ile Pro Ser Thr Asp Pro
 210 215 220

Gln Asp Trp Leu Thr Gln Lys Gln Thr Leu Glu Asn Ser Gln Thr Ser
 225 230 235 240

Ser Arg Ala Cys Asn Phe Phe Asn Asn Val Gly Gly Asn Leu Lys Gly
 245 250 255

Leu Glu Asn Trp Leu Leu Lys Ser Glu Lys Ser Ser Tyr Gln Lys Cys
 260 265 270

Asn Ser His Ser Thr Thr Ser Ser Phe Ser Ile Glu Met Glu Lys Val
 275 280 285

Gly Asp Gln Glu Leu Pro Asp Gln Asp Glu Met Asp Leu Ser Asp Trp
 290 295 300

Leu Val Thr Pro Gln Glu Ser His Lys Leu Arg Lys Pro Glu Asn Gly
 305 310 315 320

Ser Arg Glu Thr Ser Glu Lys Phe Lys Leu Leu Phe Gln Ser Tyr Asn
 325 330 335

Val Asn Asp Trp Leu Val Lys Thr Asp Ser Cys Thr Asn Cys Gln Gly
 340 345 350

Asn Gln Pro Lys Gly Val Glu Ile Glu Asn Leu Gly Asn Leu Lys Cys
 355 360 365

Leu Asn Asp His Leu Glu Ala Lys Lys Pro Leu Ser Thr Pro Ser Met
 370 375 380

Val Thr Glu Asp Trp Leu Val Gln Asn His Gln Asp Pro Cys Lys Val
 385 390 395 400

Glu Glu Val Cys Arg Ala Asn Glu Pro Cys Thr Ser Phe Ala Glu Cys
 405 410 415

Val Cys Asp Glu Asn Cys Glu Lys Glu Ala Leu Tyr Lys Trp Leu Leu
 420 425 430

Lys Lys Glu Gly Lys Asp Lys Asn Gly Met Pro Val Glu Pro Lys Pro
 435 440 445

Glu Pro Glu Lys His Lys Asp Ser Leu Asn Met Trp Leu Cys Pro Arg
 450 455 460

Lys Glu Val Ile Glu Gln Thr Lys Ala Pro Lys Ala Met Thr Pro Ser
 Page 110

465 JPOXMLDOC01-seq1 470 475 480

Trp Leu Ile Arg Pro Pro Tyr Lys Glu Gly Ser Pro Lys Glu Val Pro
500 505 510

Gly Thr **Glu** Asp Arg Ala Gly **Lys** Gln Lys Phe Lys **Ser** Pro Met Asn
515 520 525

Thr Ser Trp Cys Ser Phe Asn Thr Ala Asp Trp Val Leu Pro Gly Lys
530 535 540

Lys Met Gly Asn Leu Ser Gln Leu Ser Ser Gly Glu Asp Lys Trp Leu
545 550 555 560

Leu Arg Lys Lys Ala Gln Glu Val Leu Leu Asn Ser Pro Leu Gln Glu
565 570 575

Glu His Asn Phe Pro Pro Asp His Tyr Gly Leu Pro Ala Val Cys Asp
580 585 590

Leu Phe Ala Cys Met Gln Leu Lys Val Asp Lys Glu Lys Trp Leu Tyr
595 600 605

Arg Thr Pro Leu Gln Met
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<212>	PRT
<213>	Homo sapiens

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Leu Leu Arg Cys Ser Asp Ala Arg Arg Asp Leu Glu Leu Ala Ile Gly
20 25 30

Gly Val Leu Arg Ala Glu Gln Gln Ile Lys Asp Asn Leu Arg Glu Val
35 40 45

Lys Ala Gln Ile His Ser Cys Ile Ser Arg His Leu Glu Cys Leu Arg
50 55 60

Ser Arg Glu Val Trp Leu Tyr Glu Gln Val Asp Leu Ile Tyr Gln Leu
Page 111

65

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80

Lys Glu Glu Thr Leu₈₅ Gln Gln Gln Ala Gln₉₀ Gln Leu Tyr Ser Leu₉₅ Leu

Gly Gln Phe Asn₁₀₀ Cys Leu Thr His Gln₁₀₅ Leu Glu Cys Thr Gln₁₁₀ Asn Lys

Asp Leu Ala₁₁₅ Asn Gln Val Ser Val₁₂₀ Cys Leu Glu Arg Leu₁₂₅ Gly Ser Leu

Thr Leu₁₃₀ Lys Pro Glu Asp Ser₁₃₅ Thr Val Leu Leu Phe₁₄₀ Glu Ala Asp Thr

Ile₁₄₅ Thr Leu Arg Gln Thr₁₅₀ Ile Thr Thr Phe Gly₁₅₅ Ser Leu Lys Thr Ile₁₆₀

Gln Ile Pro Glu His₁₆₅ Leu Met Ala His Ala₁₇₀ Ser Ser Ala Asn Ile₁₇₅ Gly

Pro Phe Leu Glu₁₈₀ Lys Arg Gly Cys Ile₁₈₅ Ser Met Pro Glu Gln₁₉₀ Lys Ser

Ala Ser Gly₁₉₅ Ile Val Ala Val Pro₂₀₀ Phe Ser Glu Trp Leu₂₀₅ Leu Gly Ser

Lys Pro₂₁₀ Ala Ser Gly Tyr Gln₂₁₅ Ala Pro Tyr Ile Pro₂₂₀ Ser Thr Asp Pro

Gln₂₂₅ Asp Trp Leu Thr Gln₂₃₀ Lys Gln Thr Leu Glu₂₃₅ Asn Ser Gln Thr Ser₂₄₀

Ser Arg Ala Cys Asn₂₄₅ Phe Phe Asn Asn Val₂₅₀ Gly Gly Asn Leu Lys₂₅₅ Gly

Leu Glu Asn Trp₂₆₀ Leu Leu Lys Ser Glu₂₆₅ Lys Ser Ser Tyr Gln₂₇₀ Lys Cys

Asn Ser His₂₇₅ Ser Thr Thr Ser Ser₂₈₀ Phe Ser Ile Glu Met₂₈₅ Glu Lys Val

Gly Asp₂₉₀ Gln Glu Leu Pro Asp₂₉₅ Gln Asp Glu Met Asp₃₀₀ Leu Ser Asp Trp

Leu₃₀₅ Val Thr Pro Gln Glu₃₁₀ Ser His Lys Leu Arg₃₁₅ Lys Pro Glu Asn Gly₃₂₀

Ser Arg Glu Thr Ser₃₂₅ Glu Lys Phe Lys Leu₃₃₀ Leu Phe Gln Ser Tyr₃₃₅ Asn

Val Asn Asp Trp Leu Val Lys Thr Asp Ser Cys Thr Asn Cys Gln Gly

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Asn Gln Pro Lys Gly Val Glu Ile Glu Asn Leu Gly Asn Leu Lys Cys
 355 360 365

Leu Asn Asp His Leu Glu Ala Lys Lys Pro Leu Ser Thr Pro Ser Met
 370 375 380

Val Thr Glu Asp Trp Leu Val Gln Asn His Gln Asp Pro Cys Lys Val
 385 390 395 400

Glu Glu Val Cys Arg Ala Asn Glu Pro Cys Thr Ser Phe Ala Glu Cys
 405 410 415

Val Cys Asp Glu Asn Cys Glu Lys Glu Ala Leu Tyr Lys Trp Leu Leu
 420 425 430

Lys Lys Glu Gly Lys Asp Lys Asn Gly Met Pro Val Glu Pro Lys Pro
 435 440 445

Glu Pro Glu Lys His Lys Asp Ser Leu Asn Met Trp Leu Cys Pro Arg
 450 455 460

Lys Glu Val Ile Glu Gln Thr Lys Ala Pro Lys Ala Met Thr Pro Ser
 465 470 475 480

Arg Ile Ala Asp Ser Phe Gln Val Ile Lys Asn Ser Pro Leu Ser Glu
 485 490 495

Trp Leu Ile Arg Pro Pro Tyr Lys Glu Gly Ser Pro Lys Glu Val Pro
 500 505 510

Gly Thr Glu Asp Arg Ala Gly Lys Gln Lys Phe Lys Ser Pro Met Asn
 515 520 525

Thr Ser Trp Cys Ser Phe Asn Thr Ala Asp Trp Val Leu Pro Gly Lys
 530 535 540

Lys Met Gly Asn Leu Ser Gln Leu Ser Ser Gly Glu Asp Lys Trp Leu
 545 550 555 560

Leu Arg Lys Lys Ala Gln Glu Val Leu Leu Asn Ser Pro Leu Gln Glu
 565 570 575

Glu His Asn Phe Pro Pro Asp His Tyr Gly Leu Pro Ala Val Cys Asp
 580 585 590

Leu Phe Ala Cys Met Gln Leu Lys Val Asp Lys Glu Lys Trp Leu Tyr
 595 600 605

Arg Thr Pro Leu Gln Met

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<210> 42
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 <213> Homo sapiens

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 20 25 30

Gly Val Leu Arg Ala Glu Gln Gln Ile Lys Asp Asn Leu Arg Glu Val
 35 40 45

Lys Ala Gln Ile His Ser Cys Ile Ser Arg His Leu Glu Cys Leu Arg
 50 55 60

Ser Arg Glu Val Trp Leu Tyr Glu Gln Val Asp Leu Ile Tyr Gln Leu
 65 70 75 80

Lys Glu Glu Thr Leu Gln Gln Gln Ala Gln Gln Leu Tyr Ser Leu Leu
 85 90 95

Gly Gln Phe Asn Cys Leu Thr His Gln Leu Glu Cys Thr Gln Asn Lys
 100 105 110

Asp Leu Ala Asn Gln Val Ser Val Cys Leu Glu Arg Leu Gly Ser Leu
 115 120 125

Thr Leu Lys Pro Glu Asp Ser Thr Val Leu Leu Phe Glu Ala Asp Thr
 130 135 140

Ile Thr Leu Arg Gln Thr Ile Thr Thr Phe Gly Ser Leu Lys Thr Ile
 145 150 155 160

Gln Ile Pro Glu His Leu Met Ala His Ala Ser Ser Ala Asn Ile Gly
 165 170 175

Pro Phe Leu Glu Lys Arg Gly Cys Ile Ser Met Pro Glu Gln Lys Ser
 180 185 190

Ala Ser Gly Ile Val Ala Val Pro Phe Ser Glu Trp Leu Leu Gly Ser
 195 200 205

Lys Pro Ala Ser Gly Tyr Gln Ala Pro Tyr Ile Pro Ser Thr Asp Pro
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210

215

220

Gln Asp Trp Leu Thr Gln Lys Gln Thr Leu Glu Asn Ser Gln Thr Ser
 225 230 235 240

Ser Arg Ala Cys Asn Phe Phe Asn Asn Val Gly Gly Asn Leu Lys Gly
 245 250 255

Leu Glu Asn Trp Leu Leu Lys Ser Glu Lys Ser Ser Tyr Gln Lys Cys
 260 265 270

Asn Ser His Ser Thr Thr Ser Ser Phe Ser Ile Glu Met Glu Lys Val
 275 280 285

Gly Asp Gln Glu Leu Pro Asp Gln Asp Glu Met Asp Leu Ser Asp Trp
 290 295 300

Leu Val Thr Pro Gln Glu Ser His Lys Leu Arg Lys Pro Glu Asn Gly
 305 310 315 320

Ser Arg Glu Thr Ser Glu Lys Phe Lys Leu Leu Phe Gln Ser Tyr Asn
 325 330 335

Val Asn Asp Trp Leu Val Lys Thr Asp Ser Cys Thr Asn Cys Gln Gly
 340 345 350

Asn Gln Pro Lys Gly Val Glu Ile Glu Asn Leu Gly Asn Leu Lys Cys
 355 360 365

Leu Asn Asp His Leu Glu Ala Lys Lys Pro Leu Ser Thr Pro Ser Met
 370 375 380

Val Thr Glu Asp Trp Leu Val Gln Asn His Gln Asp Pro Cys Lys Val
 385 390 395 400

Glu Glu Val Cys Arg Ala Asn Glu Pro Cys Thr Ser Phe Ala Glu Cys
 405 410 415

Val Cys Asp Glu Asn Cys Glu Lys Glu Ala Leu Tyr Lys Trp Leu Leu
 420 425 430

Lys Lys Glu Gly Lys Asp Lys Asn Gly Met Pro Val Glu Pro Lys Pro
 435 440 445

Glu Pro Glu Lys His Lys Asp Ser Leu Asn Met Trp Leu Cys Pro Arg
 450 455 460

Lys Glu Val Ile Glu Gln Thr Lys Ala Pro Lys Ala Met Thr Pro Ser
 465 470 475 480

Arg Ile Ala Asp Ser Phe Gln Val Ile Lys Asn Ser Pro Leu Ser Glu
 Page 115

Trp Leu Ile Arg Pro Pro Tyr Lys Glu Gly Ser Pro Lys Glu Val Pro
500 505 510

Gly Thr Glu Asp Arg Ala Gly Lys Gln Lys Phe Lys Ser Pro Met Asn
515 520 525

Thr Ser Trp Cys Ser Phe Asn Thr Ala Asp Trp Val Leu Pro Gly Lys
530 535 540

Lys Met Gly Asn Leu Ser Gln Leu Ser Ser Gly Glu Asp Lys Trp Leu
545 550 555 560

Leu Arg Lys Lys Ala Gln Glu Val Leu Leu Asn Ser Pro Leu Gln Glu
565 570 575

Glu His Asn Phe Pro Pro Asp His Tyr Gly Leu Pro Ala Val Cys Asp
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<213> Homo sapiens

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tgcctgcccg agccggagcg ccagctcagc gtgcccatcc cggggggcag caacggcgac 600
atccagcaag ttggtgtaat acggtgcccga gtatgccgcc aagaatgcag acagatagac 660

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gatcacttga	tcaggaagaa	agaagatgtc	tcagagtctg	ttggagcatc	tgggtcaacgc	900
cctgttttct	gccctgtaca	caaacaagaa	cagttgaaac	ttttctgtga	aacatgtgat	960
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gaagaagctt	ttcaaaatca	gaaggggtgca	attgagaatc	tactggcgaa	acttcttgag	1080
aagaagaatt	atgttcattt	tgcagctact	caggtgcaga	ataggataaa	agaagtaa	1140
gagactaaca	aacgagtaga	acaggaaatt	aaagtggcca	ttttcacctt	tatcaatgaa	1200
attaataaga	aaggaaaatc	tctcttaca	cagctagaga	atgttacaaa	ggaaagacag	1260
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Gly Gly Val Ala Ala Ala Ser Ser Gly Ser Ala Gln Ala Ala Ser Ser
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Pro Ala Pro Ala Pro Ala Ser Ala Pro Ala Pro Gly Pro Ser Ala Gly
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Cys Leu His Ser Phe Cys Leu Arg Cys Leu Pro Glu Pro Glu Arg Gln
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Leu Ser Val Pro Ile Pro Gly Gly Ser Asn Gly Asp Ile Gln Gln Val
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Gly Val Ile Arg Cys Pro Val Cys Arg Gln Glu Cys Arg Gln Ile Asp
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Leu Val Asp Asn Tyr Phe Val Lys Asp Thr Ser Glu Ala Pro Ser Ser
 195 200 205

Ser Asp Glu Lys Ser Glu Gln Val Cys Thr Ser Cys Glu Asp Asn Ala
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210

215

220

Ser₂₂₅ Ala Val Gly Phe₂₃₀ Cys₂₃₀ Val Glu Cys Gly₂₃₅ Glu₂₃₅ Trp Leu Cys Lys Thr₂₄₀

Cys Ile Glu Ala His₂₄₅ Gln Arg Val Lys₂₅₀ Phe₂₅₀ Thr Lys Asp His₂₅₅ Leu₂₅₅ Ile

Arg Lys Lys Glu₂₆₀ Asp Val Ser Glu₂₆₅ Ser₂₆₅ Val Gly Ala Ser Gly₂₇₀ Gln Arg

Pro Val Phe₂₇₅ Cys Pro Val His₂₈₀ Lys₂₈₀ Gln Glu Gln Leu₂₈₅ Lys₂₈₅ Leu Phe Cys

Glu₂₉₀ Thr₂₉₀ Cys Asp Arg Leu₂₉₅ Thr₂₉₅ Cys Arg Asp Cys₃₀₀ Gln₃₀₀ Leu Leu Glu His

Lys₃₀₅ Glu His Arg Tyr Gln₃₁₀ Phe Leu Glu Glu₃₁₅ Ala₃₁₅ Phe Gln Asn Gln₃₂₀ Lys₃₂₀

Gly Ala Ile Glu Asn₃₂₅ Leu Leu Ala Lys₃₃₀ Leu₃₃₀ Leu Glu Lys Lys₃₃₅ Asn₃₃₅ Tyr

Val His Phe₃₄₀ Ala₃₄₀ Ala Thr Gln Val₃₄₅ Gln₃₄₅ Asn Arg Ile Lys₃₅₀ Glu₃₅₀ Val Asn

Glu Thr Asn₃₅₅ Lys Arg Val Glu₃₆₀ Gln₃₆₀ Glu Ile Lys Val₃₆₅ Ala₃₆₅ Ile Phe Thr

Leu Ile₃₇₀ Asn Glu Ile Asn₃₇₅ Lys₃₇₅ Lys Gly Lys Ser₃₈₀ Leu₃₈₀ Leu Gln Gln Leu

Glu₃₈₅ Asn Val Thr Lys₃₉₀ Glu₃₉₀ Arg Gln Met Lys₃₉₅ Leu₃₉₅ Leu Gln Gln Gln₄₀₀ Asn₄₀₀

Asp Ile Thr Gly₄₀₅ Leu₄₀₅ Ser Arg Gln Val₄₁₀ Lys₄₁₀ His Val Met Asn₄₁₅ Phe₄₁₅ Thr

Asn Trp Ala Ile₄₂₀ Ala Ser Gly Ser₄₂₅ Ser₄₂₅ Thr Ala Leu Leu Tyr₄₃₀ Ser Lys

Arg Leu Ile₄₃₅ Thr Phe Gln Leu Arg₄₄₀ His Ile Leu Lys₄₄₅ Ala₄₄₅ Arg Cys Asp

Pro Val Pro Ala Ala Asn₄₅₅ Gly₄₅₅ Ala Ile Arg Phe₄₆₀ His₄₆₀ Cys Asp Pro Thr

Phe₄₆₅ Trp Ala Lys Asn₄₇₀ Val₄₇₀ Val Asn Leu Gly₄₇₅ Asn₄₇₅ Leu Val Ile Glu₄₈₀ Ser₄₈₀

Lys Pro Ala Pro Gly Tyr Thr Pro Asn Val Val Val Gly Gln Val Pro

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Thr Thr Thr Thr Thr Thr Gln Gln His Pro Arg Gln Ala Ala Pro Gln
545 550 555 560

Met Leu Gln Gln Gln Pro Pro Arg Leu Ile Ser Val Gln Thr Met Gln
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Arg Gly Asn Met Asn Cys Gly Ala Phe Gln Ala His Gln Met Arg Leu
580 585 590

Ala Gln Asn Ala Ala Arg Ile Pro Gly Ile Pro Arg His Ser Gly Pro
595 600 605

Gln Tyr Ser Met Met Gln Pro His Leu Gln Arg Gln His Ser Asn Pro
610 615 620

Gly His Ala Gly Pro Phe Pro Val Val Ser Val His Asn Thr Thr Ile
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Pro Thr Ser Pro Ser Val Thr Ala Ile Glu Leu Ile Pro Ser Val Thr
660 665 670

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Glu Asp Ala Gly Ser Ser Ser Leu Asp Asn Leu Leu Ser Arg Tyr Ile
690 695 700

Ser Gly Ser His Leu Pro Pro Gln Pro Thr Ser Thr Met Asn Pro Ser
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Pro Gly Pro Ser Ala Leu Ser Pro Gly Ser Ser Gly Leu Ser Asn Ser
725 730 735

His Thr Pro Val Arg Pro Pro Ser Thr Ser Ser Thr Gly Ser Arg Gly
740 745 750

Ser Cys Gly Ser Ser Gly Arg Thr Ala Glu Lys Thr Ser Leu Ser Phe
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JPOXMLDOC01-seq1

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760

765

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Ile Cys Ser Phe Ser Gly Gly Val Lys Gln Glu Lys Thr Glu Asp Gly
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Arg Arg Ser Ala Cys Met Leu Ser Ser Pro Glu Ser Ser Leu Thr Pro
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Pro Leu Ser Thr Asn Leu His Leu Glu Ser Glu Leu Asp Ala Leu Ala
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Ser Leu Glu Asn His Val Lys Ile Glu Pro Ala Asp Met Asn Glu Ser
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Cys Lys Gln Ser Gly Leu Ser Ser Leu Val Asn Gly Lys Ser Pro Ile
 850 855 860

Arg Ser Leu Met His Arg Ser Ala Arg Ile Gly Gly Asp Gly Asn Asn
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Lys Asp Asp Asp Pro Asn Glu Asp Trp Cys Ala Val Cys Gln Asn Gly
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Gly Asp Leu Leu Cys Cys Glu Lys Cys Pro Lys Val Phe His Leu Thr
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Cys His Val Pro Thr Leu Leu Ser Phe Pro Ser Gly Asp Trp Ile Cys
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Thr Phe Cys Arg Asp Ile Gly Lys Pro Glu Val Glu Tyr Asp Cys Asp
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Asn Leu Gln His Ser Lys Lys Gly Lys Thr Ala Gln Gly Leu Ser Pro
 945 950 955 960

Val Asp Gln Arg Lys Cys Glu Arg Leu Leu Leu Tyr Leu Tyr Cys His
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Glu Leu Ser Ile Glu Phe Gln Glu Pro Val Pro Ala Ser Ile Pro Asn
 980 985 990

Tyr Tyr Lys Ile Ile Lys Lys Pro Met Asp Leu Ser Thr Val Lys Lys
 995 1000 1005

Lys Leu Gln Lys Lys His Ser Gln His Tyr Gln Ile Pro Asp Asp
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Phe Val Ala Asp Val Arg Leu Ile Phe Lys Asn Cys Glu Arg Phe
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1035

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Ile Asn Leu Lys Ala Asp Ser Glu Val Ala Gln Ala Gly Lys Ala
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Val Ala Leu Tyr Phe Glu Asp Lys Leu Thr Glu Ile Tyr Ser Asp
1070 1075 1080

Arg Thr Phe Ala Pro Leu Pro Glu Phe Glu Gln Glu Glu Asp Asp
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Pro Pro Pro Gly Pro Pro Ala Ser Leu Leu Asp Thr Cys Ala Val Cys

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Cys Leu His Ser Phe Cys Leu Arg Cys Leu Pro Glu Pro Glu Arg Gln
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Gly Val Ile Arg Cys Pro Val Cys Arg Gln Glu Cys Arg Gln Ile Asp
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 325 330 335

Val His Phe Ala Ala Thr Gln Val Gln Asn Arg Ile Lys Glu Val Asn
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Glu Thr Asn Lys Arg Val Glu Gln Glu Ile Lys Val Ala Ile Phe Thr
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Leu Ile Asn Glu Ile Asn Lys Lys Gly Lys Ser Leu Leu Gln Gln Leu
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Glu Asn Val Thr Lys Glu Arg Gln Met Lys Leu Leu Gln Gln Gln Asn
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 Pro Val Pro Ala Ala Asn Gly Ala Ile Arg Phe His Cys Asp Pro Thr
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 465 470 475 480
 Lys Pro Ala Pro Gly Tyr Thr Pro Asn Val Val Val Gly Gln Val Pro
 485 490 495
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 500 505 510
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 Thr Thr Thr Thr Thr Thr Gln Gln His Pro Arg Gln Ala Ala Pro Gln
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705 710 715 720

Pro Gly Pro Ser Ala Leu Ser Pro Gly Ser Ser Gly Leu Ser Asn Ser
725 730 735

His Thr Pro Val Arg Pro Pro Ser Thr Ser Ser Thr Gly Ser Arg Gly
740 745 750

Ser Cys Gly Ser Ser Gly Arg Thr Ala Glu Lys Thr Ser Leu Ser Phe
755 760 765

Lys Ser Asp Gln Val Lys Val Lys Gln Glu Pro Gly Thr Glu Asp Glu
770 775 780

Ile Cys Ser Phe Ser Gly Gly Val Lys Gln Glu Lys Thr Glu Asp Gly
785 790 795 800

Arg Arg Ser Ala Cys Met Leu Ser Ser Pro Glu Ser Ser Leu Thr Pro
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Cys His Val Pro Thr Leu Leu Ser Phe Pro Ser Gly Asp Trp Ile Cys
915 920 925

Thr Phe Cys Arg Asp Ile Gly Lys Pro Glu Val Glu Tyr Asp Cys Asp

JPOXMLDOC01-seq1

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Tyr Tyr Lys Ile Ile Lys Lys Pro Met Asp Leu Ser Thr Val Lys Lys
995 1000 1005

Lys Leu Gln Lys Lys His Ser Gln His Tyr Gln Ile Pro Asp Asp
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