

LISTADO DE SECUENCIAS

<110> Alexion Pharmaceuticals, Inc.

<120> POLIPÉPTIDOS DE FOSFATASA ALCALINA Y MÉTODOS PARA SU USO

<130> 50694-094W02

<150> US 63/149,090

<151> 2021-02-12

<160> 6

<170> PatentIn versión 3.5

<210> 1

<211> 507

<212> PRT

<213> Homo sapiens

<400> 1

Leu Val Pro Glu Lys Glu Lys Asp Pro Lys Tyr Trp Arg Asp Gln Ala
1 5 10 15

Gln Glu Thr Leu Lys Tyr Ala Leu Glu Leu Gln Lys Leu Asn Thr Asn
20 25 30

Val Ala Lys Asn Val Ile Met Phe Leu Gly Asp Gly Met Gly Val Ser
35 40 45

Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Leu His His Asn Pro
50 55 60

Gly Glu Glu Thr Arg Leu Glu Met Asp Lys Phe Pro Phe Val Ala Leu
65 70 75 80

Ser Lys Thr Tyr Asn Thr Asn Ala Gln Val Pro Asp Ser Ala Gly Thr
85 90 95

Ala Thr Ala Tyr Leu Cys Gly Val Lys Ala Asn Glu Gly Thr Val Gly
100 105 110

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

Glu Val Thr Ser Ile Leu Arg Trp Ala Lys Asp Ala Gly Lys Ser Val
130 135 140

Gly Ile Val Thr Thr Thr Arg Val Asn His Ala Thr Pro Ser Ala Ala
145 150 155 160

Tyr Ala His Ser Ala Asp Arg Asp Trp Tyr Ser Asp Asn Glu Met Pro
165 170 175

Pro Glu Ala Leu Ser Gln Gly Cys Lys Asp Ile Ala Tyr Gln Leu Met
180 185 190

His Asn Ile Arg Asp Ile Asp Val Ile Met Gly Gly Gly Arg Lys Tyr
195 200 205

Met Tyr Pro Lys Asn Lys Thr Asp Val Glu Tyr Glu Ser Asp Glu Lys
210 215 220

Ala Arg Gly Thr Arg Leu Asp Gly Leu Asp Leu Val Asp Thr Trp Lys
225 230 235 240

Ser Phe Lys Pro Arg Tyr Lys His Ser His Phe Ile Trp Asn Arg Thr
245 250 255

Glu Leu Leu Thr Leu Asp Pro His Asn Val Asp Tyr Leu Leu Gly Leu
260 265 270

Phe Glu Pro Gly Asp Met Gln Tyr Glu Leu Asn Arg Asn Asn Val Thr
275 280 285

Asp Pro Ser Leu Ser Glu Met Val Val Val Ala Ile Gln Ile Leu Arg
290 295 300

Lys Asn Pro Lys Gly Phe Phe Leu Leu Val Glu Gly Gly Arg Ile Asp
305 310 315 320

His Gly His His Glu Gly Lys Ala Lys Gln Ala Leu His Glu Ala Val
325 330 335

Glu Met Asp Arg Ala Ile Gly Gln Ala Gly Ser Leu Thr Ser Ser Glu
340 345 350

Asp Thr Leu Thr Val Val Thr Ala Asp His Ser His Val Phe Thr Phe
355 360 365

Gly Gly Tyr Thr Pro Arg Gly Asn Ser Ile Phe Gly Leu Ala Pro Met
370 375 380

Leu Ser Asp Thr Asp Lys Lys Pro Phe Thr Ala Ile Leu Tyr Gly Asn
385 390 395 400

Gly Pro Gly Tyr Lys Val Val Gly Gly Glu Arg Glu Asn Val Ser Met
405 410 415

Val Asp Tyr Ala His Asn Asn Tyr Gln Ala Gln Ser Ala Val Pro Leu
420 425 430

Arg His Glu Thr His Gly Gly Glu Asp Val Ala Val Phe Ser Lys Gly
435 440 445

Pro Met Ala His Leu Leu His Gly Val His Glu Gln Asn Tyr Val Pro
450 455 460

His Val Met Ala Tyr Ala Ala Cys Ile Gly Ala Asn Leu Gly His Cys
465 470 475 480

Ala Pro Ala Ser Ser Ala Gly Ser Leu Ala Ala Gly Pro Leu Leu Leu
485 490 495

Ala Leu Ala Leu Tyr Pro Leu Ser Val Leu Phe
500 505

<210> 2
<211> 485
<212> PRT
<213> Secuencia artificial

<220>
<223> Construcción sintética

<400> 2

Leu Val Pro Glu Lys Glu Lys Asp Pro Lys Tyr Trp Arg Asp Gln Ala
1 5 10 15

Gln Glu Thr Leu Lys Tyr Ala Leu Glu Leu Gln Lys Leu Asn Thr Asn
20 25 30

Val Ala Lys Asn Val Ile Met Phe Leu Gly Asp Gly Met Gly Val Ser
35 40 45

Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Leu His His Asn Pro
50 55 60

Gly Glu Glu Thr Arg Leu Glu Met Asp Lys Phe Pro Phe Val Ala Leu
65 70 75 80

Ser Lys Thr Tyr Asn Thr Asn Ala Gln Val Pro Asp Ser Ala Gly Thr
85 90 95

Ala Thr Ala Tyr Leu Cys Gly Val Lys Ala Asn Met Gly Thr Val Gly
100 105 110

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

Glu Val Thr Ser Ile Leu Arg Trp Ala Lys Asp Ala Gly Lys Ser Val
130 135 140

Gly Ile Val Thr Thr Thr Arg Val Asn His Ala Thr Pro Ser Ala Ala
145 150 155 160

Tyr Ala His Ser Ala Asp Arg Asp Trp Tyr Ser Asp Asn Glu Met Pro
165 170 175

Pro Glu Ala Leu Ser Gln Gly Cys Lys Asp Ile Ala Tyr Gln Leu Met
180 185 190

His Asn Ile Arg Asp Ile Asp Val Ile Met Gly Gly Gly Arg Lys Tyr
195 200 205

Met Tyr Pro Lys Gln Lys Thr Asp Val Glu Tyr Glu Ser Asp Glu Lys
210 215 220

Ala Arg Gly Thr Arg Leu Asp Gly Leu Asp Leu Val Asp Thr Trp Lys
225 230 235 240

Ser Phe Lys Pro Arg Tyr Lys His Ser His Phe Ile Trp Asn Arg Thr
245 250 255

Glu Leu Leu Thr Leu Asp Pro His Asn Val Asp Tyr Leu Leu Gly Leu
260 265 270

Phe Glu Pro Gly Asp Met Gln Tyr Glu Leu Asn Arg Asn Gln Val Thr
275 280 285

Asp Pro Ser Leu Ser Glu Met Val Val Val Ala Ile Gln Ile Leu Arg
290 295 300

Lys Asn Pro Lys Gly Phe Phe Leu Leu Val Glu Gly Gly Arg Ile Asp
305 310 315 320

His Gly His His Glu Gly Lys Ala Lys Gln Ala Leu His Glu Ala Val
325 330 335

Glu Met Asp Arg Ala Ile Gly Gln Ala Gly Ser Leu Thr Ser Ser Glu
340 345 350

Asp Thr Leu Thr Val Val Thr Ala Asp His Ser His Val Phe Thr Phe
355 360 365

Gly Gly Tyr Thr Pro Arg Gly Asn Ser Ile Phe Gly Leu Ala Pro Met
370 375 380

Leu Ser Asp Thr Asp Lys Lys Pro Phe Thr Ala Ile Leu Tyr Gly Asn
385 390 395 400

Gly Pro Gly Tyr Lys Val Val Gly Gly Glu Arg Glu Asn Val Ser Met
405 410 415

Val Asp Tyr Ala His Asn Asn Tyr Gln Ala Gln Ser Ala Val Pro Leu
420 425 430

Arg His Glu Thr His Gly Gly Glu Asp Val Ala Val Phe Ser Lys Gly
435 440 445

Pro Met Ala His Leu Leu His Gly Val His Glu Gln Asn Tyr Val Pro
450 455 460

His Val Met Ala Tyr Ala Ala Cys Ile Gly Ala Asn Leu Gly His Cys
465 470 475 480

Ala Pro Ala Ser Ser
485

<210> 3
<211> 491
<212> PRT
<213> Secuencia artificial

<220>

<223> Construcción sintética

<400> 3

Leu Val Pro Glu Lys Glu Lys Asp Pro Lys Tyr Trp Arg Asp Gln Ala
1 5 10 15

Gln Glu Thr Leu Lys Tyr Ala Leu Glu Leu Gln Lys Leu Asn Thr Asn
20 25 30

Val Ala Lys Asn Val Ile Met Phe Leu Gly Asp Gly Met Gly Val Ser
35 40 45

Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Leu His His Asn Pro
50 55 60

Gly Glu Glu Thr Arg Leu Glu Met Asp Lys Phe Pro Phe Val Ala Leu
65 70 75 80

Ser Lys Thr Tyr Asn Thr Asn Ala Gln Val Pro Asp Ser Ala Gly Thr
85 90 95

Ala Thr Ala Tyr Leu Cys Gly Val Lys Ala Asn Met Gly Thr Val Gly
100 105 110

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

Glu Val Thr Ser Ile Leu Arg Trp Ala Lys Asp Ala Gly Lys Ser Val
130 135 140

Gly Ile Val Thr Thr Thr Arg Val Asn His Ala Thr Pro Ser Ala Ala
145 150 155 160

Tyr Ala His Ser Ala Asp Arg Asp Trp Tyr Ser Asp Asn Glu Met Pro
165 170 175

Pro Glu Ala Leu Ser Gln Gly Cys Lys Asp Ile Ala Tyr Gln Leu Met
180 185 190

His Asn Ile Arg Asp Ile Asp Val Ile Met Gly Gly Gly Arg Lys Tyr
195 200 205

Met Tyr Pro Lys Gln Lys Thr Asp Val Glu Tyr Glu Ser Asp Glu Lys
210 215 220

Ala Arg Gly Thr Arg Leu Asp Gly Leu Asp Leu Val Asp Thr Trp Lys
225 230 235 240

Ser Phe Lys Pro Arg Tyr Lys His Ser His Phe Ile Trp Asn Arg Thr
245 250 255

Glu Leu Leu Thr Leu Asp Pro His Asn Val Asp Tyr Leu Leu Gly Leu
260 265 270

Phe Glu Pro Gly Asp Met Gln Tyr Glu Leu Asn Arg Asn Gln Val Thr
275 280 285

Asp Pro Ser Leu Ser Glu Met Val Val Val Ala Ile Gln Ile Leu Arg
290 295 300

Lys Asn Pro Lys Gly Phe Phe Leu Leu Val Glu Gly Gly Arg Ile Asp
305 310 315 320

His Gly His His Glu Gly Lys Ala Lys Gln Ala Leu His Glu Ala Val
325 330 335

Glu Met Asp Arg Ala Ile Gly Gln Ala Gly Ser Leu Thr Ser Ser Glu
340 345 350

Asp Thr Leu Thr Val Val Thr Ala Asp His Ser His Val Phe Thr Phe
355 360 365

Gly Gly Tyr Thr Pro Arg Gly Asn Ser Ile Phe Gly Leu Ala Pro Met
370 375 380

Leu Ser Asp Thr Asp Lys Lys Pro Phe Thr Ala Ile Leu Tyr Gly Asn
385 390 395 400

Gly Pro Gly Tyr Lys Val Val Gly Gly Glu Arg Glu Asn Val Ser Met
405 410 415

Val Asp Tyr Ala His Asn Asn Tyr Gln Ala Gln Ser Ala Val Pro Leu
420 425 430

Arg His Glu Thr His Gly Gly Glu Asp Val Ala Val Phe Ser Lys Gly
435 440 445

Pro Met Ala His Leu Leu His Gly Val His Glu Gln Asn Tyr Val Pro
450 455 460

His Val Met Ala Tyr Ala Ala Cys Ile Gly Ala Asn Leu Gly His Cys
465 470 475 480

Ala Pro Ala Ser Ser Ala Gly Ser Leu Ala Ala
485 490

<210> 4
<211> 223
<212> PRT
<213> Secuencia artificial

<220>
<223> Construcción sintética

<400> 4

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
1 5 10 15

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
20 25 30

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu
35 40 45

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
50 55 60

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser
65 70 75 80

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
85 90 95

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile
100 105 110

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
115 120 125

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

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
145 150 155 160

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
165 170 175

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg
180 185 190

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
195 200 205

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
210 215 220

<210> 5
<211> 724
<212> PRT
<213> Secuencia artificial

<220>
<223> Construcción sintética

<400> 5

Leu Val Pro Glu Lys Glu Lys Asp Pro Lys Tyr Trp Arg Asp Gln Ala
1 5 10 15

Gln Glu Thr Leu Lys Tyr Ala Leu Glu Leu Gln Lys Leu Asn Thr Asn
20 25 30

Val Ala Lys Asn Val Ile Met Phe Leu Gly Asp Gly Met Gly Val Ser
35 40 45

Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Leu His His Asn Pro
50 55 60

Gly Glu Glu Thr Arg Leu Glu Met Asp Lys Phe Pro Phe Val Ala Leu
65 70 75 80

Ser Lys Thr Tyr Asn Thr Asn Ala Gln Val Pro Asp Ser Ala Gly Thr
85 90 95

Ala Thr Ala Tyr Leu Cys Gly Val Lys Ala Asn Met Gly Thr Val Gly
100 105 110

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

Glu Val Thr Ser Ile Leu Arg Trp Ala Lys Asp Ala Gly Lys Ser Val
130 135 140

Gly Ile Val Thr Thr Thr Arg Val Asn His Ala Thr Pro Ser Ala Ala
145 150 155 160

Tyr Ala His Ser Ala Asp Arg Asp Trp Tyr Ser Asp Asn Glu Met Pro
165 170 175

Pro Glu Ala Leu Ser Gln Gly Cys Lys Asp Ile Ala Tyr Gln Leu Met
180 185 190

His Asn Ile Arg Asp Ile Asp Val Ile Met Gly Gly Gly Arg Lys Tyr
195 200 205

Met Tyr Pro Lys Gln Lys Thr Asp Val Glu Tyr Glu Ser Asp Glu Lys
210 215 220

Ala Arg Gly Thr Arg Leu Asp Gly Leu Asp Leu Val Asp Thr Trp Lys
225 230 235 240

Ser Phe Lys Pro Arg Tyr Lys His Ser His Phe Ile Trp Asn Arg Thr
245 250 255

Glu Leu Leu Thr Leu Asp Pro His Asn Val Asp Tyr Leu Leu Gly Leu
260 265 270

Phe Glu Pro Gly Asp Met Gln Tyr Glu Leu Asn Arg Asn Gln Val Thr
275 280 285

Asp Pro Ser Leu Ser Glu Met Val Val Val Ala Ile Gln Ile Leu Arg
290 295 300

Lys Asn Pro Lys Gly Phe Phe Leu Leu Val Glu Gly Gly Arg Ile Asp
305 310 315 320

His Gly His His Glu Gly Lys Ala Lys Gln Ala Leu His Glu Ala Val
325 330 335

Glu Met Asp Arg Ala Ile Gly Gln Ala Gly Ser Leu Thr Ser Ser Glu
340 345 350

Asp Thr Leu Thr Val Val Thr Ala Asp His Ser His Val Phe Thr Phe
355 360 365

Gly Gly Tyr Thr Pro Arg Gly Asn Ser Ile Phe Gly Leu Ala Pro Met
370 375 380

Leu Ser Asp Thr Asp Lys Lys Pro Phe Thr Ala Ile Leu Tyr Gly Asn
385 390 395 400

Gly Pro Gly Tyr Lys Val Val Gly Gly Glu Arg Glu Asn Val Ser Met
405 410 415

Val Asp Tyr Ala His Asn Asn Tyr Gln Ala Gln Ser Ala Val Pro Leu
420 425 430

Arg His Glu Thr His Gly Gly Glu Asp Val Ala Val Phe Ser Lys Gly
435 440 445

Pro Met Ala His Leu Leu His Gly Val His Glu Gln Asn Tyr Val Pro
450 455 460

His Val Met Ala Tyr Ala Ala Cys Ile Gly Ala Asn Leu Gly His Cys
465 470 475 480

Ala Pro Ala Ser Ser Ala Gly Ser Leu Ala Ala Val Glu Cys Pro Pro
485 490 495

Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro
500 505 510

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
515 520 525

Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp
530 535 540

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
545 550 555 560

Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
565 570 575

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
580 585 590

Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
595 600 605

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu
610 615 620

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
625 630 635 640

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
645 650 655

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
660 665 670

Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn
675 680 685

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
690 695 700

Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys Asp Asp Asp Asp Asp Asp
705 710 715 720

Asp Asp Asp Asp

<210> 6
<211> 726
<212> PRT
<213> Secuencia artificial

<220>
<223> Construcción sintética

<400> 6

Leu Val Pro Glu Lys Glu Lys Asp Pro Lys Tyr Trp Arg Asp Gln Ala
1 5 10 15

Gln Glu Thr Leu Lys Tyr Ala Leu Glu Leu Gln Lys Leu Asn Thr Asn
20 25 30

Val Ala Lys Asn Val Ile Met Phe Leu Gly Asp Gly Met Gly Val Ser
35 40 45

Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Leu His His Asn Pro
50 55 60

Gly Glu Glu Thr Arg Leu Glu Met Asp Lys Phe Pro Phe Val Ala Leu
65 70 75 80

Ser Lys Thr Tyr Asn Thr Asn Ala Gln Val Pro Asp Ser Ala Gly Thr
85 90 95

Ala Thr Ala Tyr Leu Cys Gly Val Lys Ala Asn Glu Gly Thr Val Gly
100 105 110

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

Glu Val Thr Ser Ile Leu Arg Trp Ala Lys Asp Ala Gly Lys Ser Val
130 135 140

Gly Ile Val Thr Thr Thr Arg Val Asn His Ala Thr Pro Ser Ala Ala
145 150 155 160

Tyr Ala His Ser Ala Asp Arg Asp Trp Tyr Ser Asp Asn Glu Met Pro
165 170 175

Pro Glu Ala Leu Ser Gln Gly Cys Lys Asp Ile Ala Tyr Gln Leu Met
180 185 190

His Asn Ile Arg Asp Ile Asp Val Ile Met Gly Gly Gly Arg Lys Tyr
195 200 205

Met Tyr Pro Lys Asn Lys Thr Asp Val Glu Tyr Glu Ser Asp Glu Lys
210 215 220

Ala Arg Gly Thr Arg Leu Asp Gly Leu Asp Leu Val Asp Thr Trp Lys
225 230 235 240

Ser Phe Lys Pro Arg Tyr Lys His Ser His Phe Ile Trp Asn Arg Thr
245 250 255

Glu Leu Leu Thr Leu Asp Pro His Asn Val Asp Tyr Leu Leu Gly Leu
260 265 270

Phe Glu Pro Gly Asp Met Gln Tyr Glu Leu Asn Arg Asn Asn Val Thr
275 280 285

Asp Pro Ser Leu Ser Glu Met Val Val Val Ala Ile Gln Ile Leu Arg
290 295 300

Lys Asn Pro Lys Gly Phe Phe Leu Leu Val Glu Gly Gly Arg Ile Asp
305 310 315 320

His Gly His His Glu Gly Lys Ala Lys Gln Ala Leu His Glu Ala Val
325 330 335

Glu Met Asp Arg Ala Ile Gly Gln Ala Gly Ser Leu Thr Ser Ser Glu
340 345 350

Asp Thr Leu Thr Val Val Thr Ala Asp His Ser His Val Phe Thr Phe
355 360 365

Gly Gly Tyr Thr Pro Arg Gly Asn Ser Ile Phe Gly Leu Ala Pro Met
370 375 380

Leu Ser Asp Thr Asp Lys Lys Pro Phe Thr Ala Ile Leu Tyr Gly Asn
385 390 395 400

Gly Pro Gly Tyr Lys Val Val Gly Gly Glu Arg Glu Asn Val Ser Met
405 410 415

Val Asp Tyr Ala His Asn Asn Tyr Gln Ala Gln Ser Ala Val Pro Leu
420 425 430

Arg His Glu Thr His Gly Gly Glu Asp Val Ala Val Phe Ser Lys Gly
435 440 445

Pro Met Ala His Leu Leu His Gly Val His Glu Gln Asn Tyr Val Pro
450 455 460

His Val Met Ala Tyr Ala Ala Cys Ile Gly Ala Asn Leu Gly His Cys
465 470 475 480

Ala Pro Ala Ser Ser Leu Lys Asp Lys Thr His Thr Cys Pro Pro Cys
485 490 495

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
500 505 510

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
515 520 525

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
530 535 540

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
545 550 555 560

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
565 570 575

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
580 585 590

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
595 600 605

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
610 615 620

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
625 630 635 640

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
645 650 655

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
660 665 670

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
675 680 685

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
690 695 700

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Asp Ile Asp Asp Asp Asp
705 710 715 720

Asp Asp Asp Asp Asp Asp
725