

SEQUENCE LISTING

<110> ALEXION PHARMACEUTICALS, INC.

<120> DOSIS Y ADMINISTRACIÓN DE ANTICUERPOS ANTIC-C5 PARA EL  
TRATAMIENTO

DE PACIENTES CON GLOMERULONEFRITIS  
MEMBRANOPROLIFERATIVA

<130> AXJ-201PC

<140>

<141>

<150> 62/652,615

<151> 2018-04-04

<150> 62/568,060

<151> 2017-10-04

<160> 20

<170> Patente en versión 3.5

<210> 1

<211> 10

<212> PRT

<213> Secuencia artificial

<220>

<221> Fuente

<223> /nota="Descripción de la secuencia artificial: péptido  
sintético"

<400> 1

Gly Tyr Ile Phe Ser Asn Tyr Trp Ile Gln

1

5

10

<210> 2

<211> 17

<212> PRT

<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial: péptido sintético"

<400> 2  
Glu Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe  
Lys  
1 5 10 15

Asp

<210> 3  
<211> 13  
<212> PRT  
<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial: péptido sintético"

<400> 3  
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val  
1 5 10

<210> 4  
<211> 11  
<212> PRT  
<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial: péptido sintético"

<400> 4  
Gly Ala Ser Glu Asn Ile Tyr Gly Ala Leu Asn  
1 5 10

<210> 5  
<211> 7  
<212> PRT  
<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial: péptido sintético"

<400> 5  
Gly Ala Thr Asn Leu Ala Asp  
1 5

<210> 6  
<211> 9  
<212> PRT  
<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial: péptido sintético"

<400> 6  
Gln Asn Val Leu Asn Thr Pro Leu Thr  
1 5

<210> 7  
<211> 122  
<212> PRT  
<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial: polipéptido sintético"

<400> 7

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly  
Ala  
1 5 10 15

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

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

Gly Glu Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn  
Phe  
50 55 60

Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val  
Tyr  
65 70 75  
80

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

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

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

<210> 8  
<211> 107  
<212> PRT  
<213> Secuencia artificial

<220>

<221> Fuente

<223> /nota="Descripción de la secuencia artificial:  
polipéptido  
sintético"

<400> 8

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

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

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

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

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

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

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

<210> 9

<211> 326

<212> PRT

<213> Secuencia artificial

<220>

<221> Fuente

<223> /nota="Descripción de la secuencia artificial:  
polypéptido  
sintético"

<400> 9

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser  
Arg  
1 5 10 15

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

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

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

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

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

Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala  
Pro

|                                                             |     |     |     |     |     |
|-------------------------------------------------------------|-----|-----|-----|-----|-----|
|                                                             | 100 |     | 105 |     | 110 |
| Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys |     |     |     |     |     |
| Asp                                                         |     |     |     |     |     |
|                                                             | 115 |     | 120 |     | 125 |
| Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val |     |     |     |     |     |
| Asp                                                         |     |     |     |     |     |
|                                                             | 130 |     | 135 |     | 140 |
| Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp |     |     |     |     |     |
| Gly                                                         |     |     |     |     |     |
| 145                                                         |     | 150 |     | 155 |     |
| 160                                                         |     |     |     |     |     |
| Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe |     |     |     |     |     |
| Asn                                                         |     |     |     |     |     |
|                                                             | 165 |     | 170 |     | 175 |
| Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp |     |     |     |     |     |
| Trp                                                         |     |     |     |     |     |
|                                                             | 180 |     | 185 |     | 190 |
| Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu |     |     |     |     |     |
| Pro                                                         |     |     |     |     |     |
|                                                             | 195 |     | 200 |     | 205 |
| Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg |     |     |     |     |     |
| Glu                                                         |     |     |     |     |     |
|                                                             | 210 |     | 215 |     | 220 |
| Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys |     |     |     |     |     |
| Asn                                                         |     |     |     |     |     |
| 225                                                         |     | 230 |     | 235 |     |
| 240                                                         |     |     |     |     |     |

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp  
Ile

245

250

255

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys  
Thr

260

265

270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser  
Arg

275

280

285

Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser  
Cys

290

295

300

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser  
Leu

305

310

315

320

Ser Leu Ser Leu Gly Lys

325

<210> 10

<211> 448

<212> PRT

<213> Secuencia artificial

<220>

<221> Fuente

<223> /nota="Descripción de la secuencia artificial:  
polipéptido  
sintético"

<400> 10

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly |
| Ala |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Val | Lys | Val | Ser | Cys | Lys | Ala | Ser | Gly | Tyr | Ile | Phe | Ser | Asn |
| Tyr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Gln | Trp | Val | Arg | Gln | Ala | Pro | Gly | Gln | Gly | Leu | Glu | Trp |
| Met |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Glu | Ile | Leu | Pro | Gly | Ser | Gly | Ser | Thr | Glu | Tyr | Thr | Glu | Asn |
| Phe |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Asp | Arg | Val | Thr | Met | Thr | Arg | Asp | Thr | Ser | Thr | Ser | Thr | Val |
| Tyr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |
| 80  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Tyr | Phe | Phe | Gly | Ser | Ser | Pro | Asn | Trp | Tyr | Phe | Asp | Val |
| Trp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gln | Gly | Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly |
| Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Val | Phe | Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser |
| Thr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ala | Leu | Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val |
| Thr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |
| 160 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ser | Trp | Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe |
| Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Val | Leu | Gln | Ser | Ser | Gly | Leu | Tyr | Ser | Leu | Ser | Ser | Val | Val |
| Thr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Ser | Ser | Asn | Phe | Gly | Thr | Gln | Thr | Tyr | Thr | Cys | Asn | Val |
| Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Pro | Ser | Asn | Thr | Lys | Val | Asp | Lys | Thr | Val | Glu | Arg | Lys |
| Cys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Val | Glu | Cys | Pro | Pro | Cys | Pro | Ala | Pro | Pro | Val | Ala | Gly | Pro |
| Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |
| 240 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser |
| Arg |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | Gln | Glu | Asp |
| Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |

Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn  
Ala

275

280

285

Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val  
Val

290

295

300

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu  
Tyr

305

310

315

320

Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys  
Thr

325

330

335

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr  
Leu

340

345

350

Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr  
Cys

355

360

365

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

370

375

380

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu  
Asp

385

390

395

400

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys  
Ser

|                                                             |     |  |     |  |     |
|-------------------------------------------------------------|-----|--|-----|--|-----|
|                                                             | 405 |  | 410 |  | 415 |
| Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu |     |  |     |  |     |
| Ala                                                         |     |  |     |  |     |
|                                                             | 420 |  | 425 |  | 430 |

|                                                             |     |     |     |
|-------------------------------------------------------------|-----|-----|-----|
| Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly |     |     |     |
| Lys                                                         |     |     |     |
|                                                             | 435 | 440 | 445 |

<210> 11  
 <211> 214  
 <212> PRT  
 <213> Secuencia artificial

<220>  
 <221> Fuente  
 <223> /nota="Descripción de la secuencia artificial:  
 polipéptido  
 sintético"

|                                                                          |
|--------------------------------------------------------------------------|
| <400> 11                                                                 |
| Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val              |
| Gly                                                                      |
| 1                      5                      10                      15 |

|                                                             |
|-------------------------------------------------------------|
| Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr Gly |
| Ala                                                         |
| 20                      25                      30          |

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

|                                                             |
|-------------------------------------------------------------|
| Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe Ser |
| Gly                                                         |
| 50                      55                      60          |

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

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

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

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser  
Gly  
                    115                      120                      125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu  
Ala  
                    130                      135                      140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser  
Gln  
145                      150                      155  
160

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

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val  
Tyr  
                    180                      185                      190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys  
Ser

195

200

205

Phe Asn Arg Gly Glu Cys  
210

<210> 12

<211> 122

<212> PRT

<213> Secuencia artificial

<220>

<221> Fuente

<223> /nota="Descripción de la secuencia artificial:  
polipéptido  
sintético"

<400> 12

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly  
Ala

1

5

10

15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly His Ile Phe Ser Asn  
Tyr

20

25

30

Trp Ile Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp  
Met

35

40

45

Gly Glu Ile Leu Pro Gly Ser Gly His Thr Glu Tyr Thr Glu Asn  
Phe

50

55

60

Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val  
Tyr

65  
80

70

75

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr  
Cys

85

90

95

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

100

105

110

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

<210> 13

<211> 326

<212> PRT

<213> Secuencia artificial

<220>

<221> Fuente

<223> /nota="Descripción de la secuencia artificial:  
polipéptido  
sintético"

<400> 13

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser  
Arg

1

5

10

15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp  
Tyr

20

25

30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr  
Ser

35

40

45

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

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

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

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

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

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

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

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

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp  
Trp

180

185

190

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu  
Pro

195

200

205

Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg  
Glu

210

215

220

Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys  
Asn

225

230

235

240

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp  
Ile

245

250

255

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys  
Thr

260

265

270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser  
Arg

275

280

285

Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser  
Cys

290

295

300

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

305  
320

310

315

Ser Leu Ser Leu Gly Lys  
325

<210> 14  
<211> 448  
<212> PRT  
<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial:  
polipéptido  
sintético"

<400> 14  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly  
Ala  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly His Ile Phe Ser Asn  
Tyr  
20 25 30

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

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

Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val  
Tyr  
65 70 75  
80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr  
Cys

85

90

95

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

100

105

110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly  
Pro

115

120

125

Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser  
Thr

130

135

140

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val  
Thr

145

150

155

160

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe  
Pro

165

170

175

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val  
Thr

180

185

190

Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val  
Asp

195

200

205

His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys  
Cys  
210 215 220

Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro  
Ser  
225 230 235  
240

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser  
Arg  
245 250 255

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp  
Pro  
260 265 270

Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn  
Ala  
275 280 285

Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val  
Val  
290 295 300

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu  
Tyr  
305 310 315  
320

Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys  
Thr  
325 330 335

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr  
Leu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 340 |     | 345 |     | 350 |     |     |     |     |     |     |     |     |     |
| Pro | Pro | Ser | Gln | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr |
| Cys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |
| Leu | Val | Lys | Gly | Phe | Tyr | Pro | Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu |
| Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |
| Asn | Gly | Gln | Pro | Glu | Asn | Asn | Tyr | Lys | Thr | Thr | Pro | Pro | Val | Leu |
| Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |
| 400 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ser | Asp | Gly | Ser | Phe | Phe | Leu | Tyr | Ser | Arg | Leu | Thr | Val | Asp | Lys |
| Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Arg | Trp | Gln | Glu | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Leu | His | Glu |
| Ala |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |     |     |     |
| Leu | His | Ser | His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser | Leu | Gly |
| Lys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 435 |     |     |     |     | 440 |     |     |     | 445 |     |     |     |     |

<210> 15  
 <211> 326  
 <212> PRT  
 <213> Secuencia artificial

<220>  
 <221> Fuente  
 <223> /nota="Descripción de la secuencia artificial:  
 polipéptido  
 sintético"

<400> 15

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser  
Arg  
1 5 10 15

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys  
Thr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 260 |     | 265 |     | 270 |     |     |     |     |     |     |     |     |     |
| Thr | Pro | Pro | Met | Leu | Asp | Ser | Asp | Gly | Ser | Phe | Phe | Leu | Tyr | Ser |
| Lys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |

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

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

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Ser | Leu | Ser | Pro | Gly | Lys |
|     |     |     |     | 325 |     |

<210> 16  
 <211> 448  
 <212> PRT  
 <213> Secuencia artificial

<220>  
 <221> Fuente  
 <223> /nota="Descripción de la secuencia artificial:  
 polipéptido  
 sintético"

|                                                                          |
|--------------------------------------------------------------------------|
| <400> 16                                                                 |
| Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly              |
| Ala                                                                      |
| 1                      5                      10                      15 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Val | Lys | Val | Ser | Cys | Lys | Ala | Ser | Gly | Tyr | Ile | Phe | Ser | Asn |
| Tyr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

Trp Ile Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp  
Met

35

40

45

Gly Glu Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn  
Phe

50

55

60

Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val  
Tyr

65

70

75

80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr  
Cys

85

90

95

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

100

105

110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly  
Pro

115

120

125

Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser  
Thr

130

135

140

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val  
Thr

145

150

155

160

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ser | Trp | Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe |
| Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Val | Leu | Gln | Ser | Ser | Gly | Leu | Tyr | Ser | Leu | Ser | Ser | Val | Val |
| Thr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Thr | Ser | Ser | Asn | Phe | Gly | Thr | Gln | Thr | Tyr | Thr | Cys | Asn | Val |
| Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Pro | Ser | Asn | Thr | Lys | Val | Asp | Lys | Thr | Val | Glu | Arg | Lys |
| Cys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Val | Glu | Cys | Pro | Pro | Cys | Pro | Ala | Pro | Pro | Val | Ala | Gly | Pro |
| Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 225 |     |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |
| 240 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Tyr | Ile | Thr |
| Arg |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | His | Glu | Asp |
| Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 260 |     |     |     |     |     | 265 |     |     |     | 270 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Val | Gln | Phe | Asn | Trp | Tyr | Val | Asp | Gly | Met | Glu | Val | His | Asn |
| Ala |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Thr | Lys | Pro | Arg | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Phe | Arg | Val |
| Val |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 290 |     |     |     |     |     | 295 |     |     |     |     | 300 |     |     |

Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu  
 Tyr  
 305 310 315  
 320

Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys  
 Thr  
 325 330 335

Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr  
 Leu  
 340 345 350

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr  
 Cys  
 355 360 365

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu  
 Ser  
 370 375 380

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu  
 Asp  
 385 390 395  
 400

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys  
 Ser  
 405 410 415

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu  
 Ala  
 420 425 430

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly  
Lys

435

440

445

<210> 17

<211> 11

<212> PRT

<213> Secuencia artificial

<220>

<221> Fuente

<223> /nota="Descripción de la secuencia artificial: péptido  
sintético"

<400> 17

Gly Ala Ser Glu Asn Ile Tyr His Ala Leu Asn

1

5

10

<210> 18

<211> 17

<212> PRT

<213> Secuencia artificial

<220>

<221> Fuente

<223> /nota="Descripción de la secuencia artificial: péptido  
sintético"

<400> 18

Glu Ile Leu Pro Gly Ser Gly His Thr Glu Tyr Thr Glu Asn Phe

Lys

1

5

10

15

Asp

<210> 19

<211> 10

<212> PRT

<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial: péptido sintético"

<400> 19  
Gly His Ile Phe Ser Asn Tyr Trp Ile Gln  
1 5 10

<210> 20  
<211> 448  
<212> PRT  
<213> Secuencia artificial

<220>  
<221> Fuente  
<223> /nota="Descripción de la secuencia artificial: polipéptido sintético"

<400> 20  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly  
Ala  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly His Ile Phe Ser Asn  
Tyr  
20 25 30

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

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

Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val  
Tyr  
65 70 75  
80

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

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

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

Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser  
Thr  
130 135 140

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val  
Thr  
145 150 155  
160

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe  
Pro  
165 170 175

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val  
Thr  
180 185 190

Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val  
Asp

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     | 195 |     | 200 |     | 205 |     |     |     |     |     |     |     |     |     |  |
| His | Lys | Pro | Ser | Asn | Thr | Lys | Val | Asp | Lys | Thr | Val | Glu | Arg | Lys |  |
| Cys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |  |
| Cys | Val | Glu | Cys | Pro | Pro | Cys | Pro | Ala | Pro | Pro | Val | Ala | Gly | Pro |  |
| Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |  |
| 240 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Val | Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser |  |
| Arg |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |  |
| Thr | Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | Gln | Glu | Asp |  |
| Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |  |
| Glu | Val | Gln | Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn |  |
| Ala |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     | 285 |     |     |     |  |
| Lys | Thr | Lys | Pro | Arg | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Tyr | Arg | Val |  |
| Val |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |  |
| Ser | Val | Leu | Thr | Val | Leu | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu |  |
| Tyr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 305 |     |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |  |
| 320 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Lys | Cys | Lys | Val | Ser | Asn | Lys | Gly | Leu | Pro | Ser | Ser | Ile | Glu | Lys |  |
| Thr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |  |

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr  
Leu

340

345

350

Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr  
Cys

355

360

365

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

370

375

380

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu  
Asp

385

390

395

400

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys  
Ser

405

410

415

Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu  
Ala

420

425

430

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly  
Lys

435

440

445