

## LISTADO DE SECUENCIAS

5 <110> THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE  
 SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES  
 <120> RECEPTOR DE CÉLULAS T RESTRINGIDO POR HLA DE LA CLASE I CONTRA  
 RAS CON MUTACIÓN G12D  
 10 <130> 751506  
 <150> US 62/975,544  
 <151> 2020-02-12  
 15 <160> 67  
 <170> PatentIn version 3.5  
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    Cys Trp Val Ser Gly Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val
45          20          25          30

    Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly Gly Ile Ser Ile
    35          40          45

50

    Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr

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|    | 50                         |                 | 55                  |                 | 60                                 |
|----|----------------------------|-----------------|---------------------|-----------------|------------------------------------|
| 5  | Gln 65                     | Gln Phe Pro Gly | Lys 70              | Gly Pro Ala Leu | Leu 75 Ile Ala Ile Arg Pro 80      |
| 10 | Asp Val Ser                | Glu 85          | Lys Lys Glu Gly Arg | Phe 90          | Thr Ile Ser Phe Asn Lys 95         |
| 15 | Ser Ala Lys                | Gln 100         | Phe Ser Leu His     | Ile 105         | Met Asp Ser Gln Pro Gly Asp 110    |
| 20 | Ser Ala Thr                | Tyr 115         | Phe Cys Ala Ala     | Glu 120         | Ala Gly Asn His Arg Gly Ser 125    |
| 25 | Thr Leu Gly                | Arg 130         | Leu Tyr Phe Gly     | Arg 135         | Gly Thr Gln Leu Thr Val Trp 140    |
| 30 | Pro 145                    |                 |                     |                 |                                    |
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| 50 | <213> Secuencia artificial |                 |                     |                 |                                    |
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| 60 | <223> Sintético            |                 |                     |                 |                                    |
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| 70 | Met 1                      | Ala Ser Arg     | Leu 5               | Leu Cys Trp Val | Leu 10 Leu Cys Leu Leu Gly Ala 15  |
| 75 | Gly Pro Val                | Lys 20          | Ala Gly Val Thr     | Gln 25          | Thr Pro Arg Tyr Leu Ile Lys 30     |
| 80 | Thr Arg Gly                | Gln 35          | Gln Val Thr         | Leu 40          | Ser Cys Ser Pro Ile Ser Gly His 45 |
| 85 | Arg Ser Val                | Ser Trp Tyr     | Gln 55              | Gln Thr Pro Gly | Gln 60 Gly Leu Gln Phe 65          |

|    |       |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|    | Leu   | Phe          | Glu | Tyr | Phe | Ser | Glu | Thr | Gln | Arg | Asn | Lys | Gly | Asn | Phe | Pro |
|    | 65    |              |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| 5  | Gly   | Arg          | Phe | Ser | Gly | Arg | Gln | Phe | Ser | Asn | Ser | Arg | Ser | Glu | Met | Asn |
|    |       |              |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| 10 | Val   | Ser          | Thr | Leu | Glu | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser |
|    |       |              |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| 15 | Ser   | Leu          | Ala | Ala | Gly | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly |
|    |       |              | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| 20 | Thr   | Arg          | Leu | Thr | Val | Leu |     |     |     |     |     |     |     |     |     |     |
|    |       | 130          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <210> | 9            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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| 25 | <213> | Homo sapiens |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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| 30 | Met   | Thr          | Glu | Tyr | Lys | Leu | Val | Val | Val | Gly | Ala | Gly | Gly | Val | Gly | Lys |
|    | 1     |              |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| 35 | Ser   | Ala          | Leu | Thr | Ile | Gln | Leu | Ile | Gln | Asn | His | Phe | Val | Asp | Glu | Tyr |
|    |       |              |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| 40 | Asp   | Pro          | Thr | Ile | Glu | Asp | Ser | Tyr | Arg | Lys | Gln | Val | Val | Ile | Asp | Gly |
|    |       |              | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| 45 | Glu   | Thr          | Cys | Leu | Leu | Asp | Ile | Leu | Asp | Thr | Ala | Gly | Gln | Glu | Glu | Tyr |
|    |       | 50           |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| 50 | Ser   | Ala          | Met | Arg | Asp | Gln | Tyr | Met | Arg | Thr | Gly | Glu | Gly | Phe | Leu | Cys |
|    | 65    |              |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| 55 | Val   | Phe          | Ala | Ile | Asn | Asn | Thr | Lys | Ser | Phe | Glu | Asp | Ile | His | His | Tyr |
|    |       |              |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |

|    |       |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Arg   | Glu          | Gln | Ile | Lys | Arg | Val | Lys | Asp | Ser | Glu | Asp | Val | Pro | Met | Val |  |
|    |       |              |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| 5  | Leu   | Val          | Gly | Asn | Lys | Cys | Asp | Leu | Pro | Ser | Arg | Thr | Val | Asp | Thr | Lys |  |
|    |       |              | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| 10 | Gln   | Ala          | Gln | Asp | Leu | Ala | Arg | Ser | Tyr | Gly | Ile | Pro | Phe | Ile | Glu | Thr |  |
|    |       | 130          |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| 15 | Ser   | Ala          | Lys | Thr | Arg | Gln | Arg | Val | Glu | Asp | Ala | Phe | Tyr | Thr | Leu | Val |  |
|    | 145   |              |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |  |
| 20 | Arg   | Glu          | Ile | Arg | Gln | Tyr | Arg | Leu | Lys | Lys | Ile | Ser | Lys | Glu | Glu | Lys |  |
|    |       |              |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 25 | Thr   | Pro          | Gly | Cys | Val | Lys | Ile | Lys | Lys | Cys | Ile | Ile | Met |     |     |     |  |
|    |       |              |     | 180 |     |     |     |     | 185 |     |     |     |     |     |     |     |  |
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| 35 | <400> | 10           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | Met   | Thr          | Glu | Tyr | Lys | Leu | Val | Val | Val | Gly | Ala | Gly | Gly | Val | Gly | Lys |  |
|    | 1     |              |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| 40 | Ser   | Ala          | Leu | Thr | Ile | Gln | Leu | Ile | Gln | Asn | His | Phe | Val | Asp | Glu | Tyr |  |
|    |       |              |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| 45 | Asp   | Pro          | Thr | Ile | Glu | Asp | Ser | Tyr | Arg | Lys | Gln | Val | Val | Ile | Asp | Gly |  |
|    |       |              | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| 50 | Glu   | Thr          | Cys | Leu | Leu | Asp | Ile | Leu | Asp | Thr | Ala | Gly | Gln | Glu | Glu | Tyr |  |
|    |       | 50           |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |  |
| 55 | Ser   | Ala          | Met | Arg | Asp | Gln | Tyr | Met | Arg | Thr | Gly | Glu | Gly | Phe | Leu | Cys |  |
|    | 65    |              |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |  |
| 60 | Val   | Phe          | Ala | Ile | Asn | Asn | Thr | Lys | Ser | Phe | Glu | Asp | Ile | His | His | Tyr |  |

|    | 85                                                              | 90  | 95  |     |     |
|----|-----------------------------------------------------------------|-----|-----|-----|-----|
| 5  | Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val | 100 | 105 | 110 |     |
| 10 | Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys | 115 | 120 | 125 |     |
| 15 | Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr | 130 | 135 | 140 |     |
| 20 | Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val | 145 | 150 | 155 | 160 |
| 25 | Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Lys Lys | 165 | 170 | 175 |     |
| 30 | Lys Lys Lys Lys Ser Lys Thr Lys Cys Val Ile Met                 | 180 | 185 |     |     |
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|    | <211> 189                                                       |     |     |     |     |
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|    | <400> 11                                                        |     |     |     |     |
| 35 | Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Gly Gly Val Gly Lys | 1   | 5   | 10  | 15  |
| 40 | Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr | 20  | 25  | 30  |     |
| 45 | Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly | 35  | 40  | 45  |     |
| 50 | Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr | 50  | 55  | 60  |     |
|    | Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys | 65  | 70  | 75  | 80  |

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His Gln Tyr  
 85 90 95  
 5  
 Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Asp Asp Val Pro Met Val  
 100 105 110  
 10  
 Leu Val Gly Asn Lys Cys Asp Leu Ala Ala Arg Thr Val Glu Ser Arg  
 115 120 125  
 15  
 Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Tyr Ile Glu Thr  
 130 135 140  
 20  
 Ser Ala Lys Thr Arg Gln Gly Val Glu Asp Ala Phe Tyr Thr Leu Val  
 145 150 155 160  
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 Arg Glu Ile Arg Gln His Lys Leu Arg Lys Leu Asn Pro Pro Asp Glu  
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 Ser Gly Pro Gly Cys Met Ser Cys Lys Cys Val Leu Ser  
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 Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr  
 20 25 30  
 45  
 Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly  
 35 40 45  
 50  
 Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr  
 50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys  
 65 70 75 80

5 Val Phe Ala Ile Asn Asn Ser Lys Ser Phe Ala Asp Ile Asn Leu Tyr  
 85 90 95

10 Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Asp Asp Val Pro Met Val  
 100 105 110

15 Leu Val Gly Asn Lys Cys Asp Leu Pro Thr Arg Thr Val Asp Thr Lys  
 115 120 125

20 Gln Ala His Glu Leu Ala Lys Ser Tyr Gly Ile Pro Phe Ile Glu Thr  
 130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Glu Asp Ala Phe Tyr Thr Leu Val  
 145 150 155 160

25 Arg Glu Ile Arg Gln Tyr Arg Met Lys Lys Leu Asn Ser Ser Asp Asp  
 165 170 175

30 Gly Thr Gln Gly Cys Met Gly Leu Pro Cys Val Val Met  
 180 185

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 <213> Homo sapiens

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

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr  
 50 55 60

5 Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys  
 65 70 75 80

10 Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr  
 85 90 95

15 Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val  
 100 105 110

20 Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys  
 115 120 125

25 Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr  
 130 135 140

30 Ser Ala Lys Thr Arg Gln Arg Val Glu Asp Ala Phe Tyr Thr Leu Val  
 145 150 155 160

35 Arg Glu Ile Arg Gln Tyr Arg Leu Lys Lys Ile Ser Lys Glu Glu Lys  
 165 170 175

Thr Pro Gly Cys Val Lys Ile Lys Lys Cys Ile Ile Met  
 180 185

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45 Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys  
 1 5 10 15

50 Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr  
 20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly

|    | 35                                                                                       | 40 | 45 |
|----|------------------------------------------------------------------------------------------|----|----|
| 5  | Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr<br>50 55 60              |    |    |
| 10 | Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys<br>65 70 75 80           |    |    |
| 15 | Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr<br>85 90 95              |    |    |
| 20 | Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val<br>100 105 110           |    |    |
| 25 | Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys<br>115 120 125           |    |    |
| 30 | Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr<br>130 135 140           |    |    |
| 35 | Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val<br>145 150 155 160       |    |    |
| 40 | Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Lys Lys<br>165 170 175           |    |    |
| 45 | Lys Lys Lys Lys Ser Lys Thr Lys Cys Val Ile Met<br>180 185                               |    |    |
| 50 | <210> 15<br><211> 189<br><212> PRT<br><213> Homo sapiens                                 |    |    |
| 55 | <400> 15<br>Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys<br>1 5 10 15 |    |    |
| 60 | Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr<br>20 25 30              |    |    |

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly  
 35 40 45  
 5

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr  
 50 55 60  
 10

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys  
 65 70 75 80  
 15

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His Gln Tyr  
 85 90 95  
 20

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Asp Asp Val Pro Met Val  
 100 105 110  
 25

Leu Val Gly Asn Lys Cys Asp Leu Ala Ala Arg Thr Val Glu Ser Arg  
 115 120 125  
 30

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Tyr Ile Glu Thr  
 130 135 140  
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Ser Ala Lys Thr Arg Gln Gly Val Glu Asp Ala Phe Tyr Thr Leu Val  
 145 150 155 160  
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Arg Glu Ile Arg Gln His Lys Leu Arg Lys Leu Asn Pro Pro Asp Glu  
 165 170 175  
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Ser Gly Pro Gly Cys Met Ser Cys Lys Cys Val Leu Ser  
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Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys  
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<400>  17

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

    Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Xaa
35             35             40             45

    Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala
    50             55             60

40  Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr
    65             70             75             80

45  Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr
    85             90             95

50  Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Xaa
    100            105            110

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Val Xaa Xaa Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu  
115 120 125

5 Leu Met Thr Leu Arg Leu Trp Ser Ser  
130 135

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

35 Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp Val Asn  
35 40 45

40 Gly Lys Glu Val His Ser Gly Val Xaa Thr Asp Pro Gln Ala Tyr Lys  
50 55 60

40 Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala  
65 70 75 80

45 Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe  
85 90 95

50 His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro  
100 105 110

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

5 Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu  
       130                  135                  140

10 Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu Val Ser  
       145                  150                  155                  160

15 Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser  
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 20 <213> Mus musculus  
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25 Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg  
       1                  5                  10                  15

30 Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile  
                   20                  25                  30

Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Thr  
                   35                  40                  45

35 Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala  
       50                  55                  60

40 Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr  
       65                  70                  75                  80

45 Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr  
                   85                  90                  95

50 Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Ser  
                   100                  105                  110

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

|    | 115                                                                                | 120 | 125 |
|----|------------------------------------------------------------------------------------|-----|-----|
| 5  | Leu Met Thr Leu Arg Leu Trp Ser Ser<br>130 135                                     |     |     |
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| 15 | Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro<br>1 5 10 15       |     |     |
| 20 | Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu<br>20 25 30        |     |     |
| 25 | Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp Val Asn<br>35 40 45        |     |     |
| 30 | Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Ala Tyr Lys<br>50 55 60        |     |     |
| 35 | Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala<br>65 70 75 80     |     |     |
| 40 | Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe<br>85 90 95        |     |     |
| 45 | His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro<br>100 105 110     |     |     |
| 50 | Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly<br>115 120 125     |     |     |
|    | Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu<br>130 135 140     |     |     |
|    | Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu Val Ser<br>145 150 155 160 |     |     |

Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser  
 165 170  
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 <222> (193)..(193)  
 <223> Xaa es Thr o Cys  
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 <223> Xaa es Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, o Trp  
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 <222> (259)..(259)  
 <223> Xaa es Met, Ala, Val, Leu, Ile, Pro, Phe, o Trp  
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 <220>  
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 <222> (260)..(260)  
 <223> Xaa es Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, o Trp  
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 <400> 21  
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 1 5 10 15  
 40  
 Cys Trp Val Ser Gly Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val  
 20 25 30  
 45  
 Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly Gly Ile Ser Ile  
 35 40 45  
 50 Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr  
 50 55 60

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Gln | Gln | Phe | Pro | Gly | Lys | Gly | Pro | Ala | Leu | Leu | Ile | Ala | Ile | Arg | Pro |  |
|    | 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| 5  | Asp | Val | Ser | Glu | Lys | Lys | Glu | Gly | Arg | Phe | Thr | Ile | Ser | Phe | Asn | Lys |  |
|    |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| 10 | Ser | Ala | Lys | Gln | Phe | Ser | Leu | His | Ile | Met | Asp | Ser | Gln | Pro | Gly | Asp |  |
|    |     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| 15 | Ser | Ala | Thr | Tyr | Phe | Cys | Ala | Ala | Glu | Ala | Gly | Asn | His | Arg | Gly | Ser |  |
|    |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| 20 | Thr | Leu | Gly | Arg | Leu | Tyr | Phe | Gly | Arg | Gly | Thr | Gln | Leu | Thr | Val | Trp |  |
|    |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| 25 | Pro | Asn | Ile | Gln | Asn | Pro | Glu | Pro | Ala | Val | Tyr | Gln | Leu | Lys | Asp | Pro |  |
|    | 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |  |
| 30 | Arg | Ser | Gln | Asp | Ser | Thr | Leu | Cys | Leu | Phe | Thr | Asp | Phe | Asp | Ser | Gln |  |
|    |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 35 | Ile | Asn | Val | Pro | Lys | Thr | Met | Glu | Ser | Gly | Thr | Phe | Ile | Thr | Asp | Lys |  |
|    |     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| 40 | Xaa | Val | Leu | Asp | Met | Lys | Ala | Met | Asp | Ser | Lys | Ser | Asn | Gly | Ala | Ile |  |
|    |     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| 45 | Ala | Trp | Ser | Asn | Gln | Thr | Ser | Phe | Thr | Cys | Gln | Asp | Ile | Phe | Lys | Glu |  |
|    |     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 50 | Thr | Asn | Ala | Thr | Tyr | Pro | Ser | Ser | Asp | Val | Pro | Cys | Asp | Ala | Thr | Leu |  |
|    | 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| 55 | Thr | Glu | Lys | Ser | Phe | Glu | Thr | Asp | Met | Asn | Leu | Asn | Phe | Gln | Asn | Leu |  |
|    |     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| 60 | Xaa | Val | Xaa | Xaa | Leu | Arg | Ile | Leu | Leu | Leu | Lys | Val | Ala | Gly | Phe | Asn |  |
|    |     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |

Leu Leu Met Thr Leu Arg Leu Trp Ser Ser  
           275                    280

5  
   <210> 22  
   <211> 307  
   <212> PRT  
   <213> Secuencia artificial

10  
   <220>  
   <223> Sintético

15  
   <220>  
   <221> CARACTERISTICAS\_MISC  
   <222> (191)..(191)  
   <223> Xaa es Ser o Cys

20  
   <400> 22

Met Ala Ser Arg Leu Leu Cys Trp Val Leu Leu Cys Leu Leu Gly Ala  
 1                    5                    10                    15

25  
 Gly Pro Val Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys  
                     20                    25                    30

30  
 Thr Arg Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His  
                     35                    40                    45

35  
 Arg Ser Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe  
           50                    55                    60

40  
 Leu Phe Glu Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro  
 65                    70                    75                    80

45  
 Gly Arg Phe Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn  
                     85                    90                    95

Val Ser Thr Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser  
                     100                    105                    110

50  
 Ser Leu Ala Ala Gly Gly Tyr Phe Asn Glu Gln Phe Phe Gly Pro Gly  
           115                    120                    125

[illegible]

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 <220>  
 <223> Sintético  
 5 <400> 23  
 Met Asp Lys Ile Leu Gly Ala Ser Phe Leu Val Leu Trp Leu Gln Leu  
 1 5 10 15  
 10 Cys Trp Val Ser Gly Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val  
 20 25 30  
 15 Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly Gly Ile Ser Ile  
 35 40 45  
 20 Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr  
 50 55 60  
 25 Gln Gln Phe Pro Gly Lys Gly Pro Ala Leu Leu Ile Ala Ile Arg Pro  
 65 70 75 80  
 Asp Val Ser Glu Lys Lys Glu Gly Arg Phe Thr Ile Ser Phe Asn Lys  
 85 90 95  
 30 Ser Ala Lys Gln Phe Ser Leu His Ile Met Asp Ser Gln Pro Gly Asp  
 100 105 110  
 35 Ser Ala Thr Tyr Phe Cys Ala Ala Glu Ala Gly Asn His Arg Gly Ser  
 115 120 125  
 40 Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln Leu Thr Val Trp  
 130 135 140  
 45 Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro  
 145 150 155 160  
 Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln  
 165 170 175  
 50 Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys

|    | 180                                                                                                              | 185 | 190 |
|----|------------------------------------------------------------------------------------------------------------------|-----|-----|
| 5  | Thr Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile<br>195 200 205                                   |     |     |
| 10 | Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu<br>210 215 220                                   |     |     |
| 15 | Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu<br>225 230 235 240                               |     |     |
| 20 | Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu<br>245 250 255                                   |     |     |
| 25 | Ser Val Met Gly Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn<br>260 265 270                                   |     |     |
| 30 | Leu Leu Met Thr Leu Arg Leu Trp Ser Ser<br>275 280                                                               |     |     |
| 35 | <210> 24<br><211> 307<br><212> PRT<br><213> Secuencia artificial<br><br><220><br><223> Sintético<br><br><400> 24 |     |     |
| 40 | Met Ala Ser Arg Leu Leu Cys Trp Val Leu Leu Cys Leu Leu Gly Ala<br>1 5 10 15                                     |     |     |
| 45 | Gly Pro Val Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys<br>20 25 30                                      |     |     |
| 50 | Thr Arg Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His<br>35 40 45                                      |     |     |
| 55 | Arg Ser Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe<br>50 55 60                                      |     |     |

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Leu | Phe | Glu | Tyr | Phe | Ser | Glu | Thr | Gln | Arg | Asn | Lys | Gly | Asn | Phe | Pro |  |
|    | 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| 5  | Gly | Arg | Phe | Ser | Gly | Arg | Gln | Phe | Ser | Asn | Ser | Arg | Ser | Glu | Met | Asn |  |
|    |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| 10 | Val | Ser | Thr | Leu | Glu | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser |  |
|    |     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| 15 | Ser | Leu | Ala | Ala | Gly | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly |  |
|    |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| 20 | Thr | Arg | Leu | Thr | Val | Leu | Glu | Asp | Leu | Arg | Asn | Val | Thr | Pro | Pro | Lys |  |
|    |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| 25 | Val | Ser | Leu | Phe | Glu | Pro | Ser | Lys | Ala | Glu | Ile | Ala | Asn | Lys | Gln | Lys |  |
|    | 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| 30 | Ala | Thr | Leu | Val | Cys | Leu | Ala | Arg | Gly | Phe | Phe | Pro | Asp | His | Val | Glu |  |
|    |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 35 | Leu | Ser | Trp | Trp | Val | Asn | Gly | Lys | Glu | Val | His | Ser | Gly | Val | Ser | Thr |  |
|    |     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| 40 | Arg | Leu | Arg | Val | Ser | Ala | Thr | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe |  |
|    |     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 45 | Arg | Cys | Gln | Val | Gln | Phe | His | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro |  |
|    | 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| 50 | Glu | Gly | Ser | Pro | Lys | Pro | Val | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp |  |
|    |     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| 55 | Gly | Arg | Ala | Asp | Cys | Gly | Ile | Thr | Ser | Ala | Ser | Tyr | Gln | Gln | Gly | Val |  |
|    |     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu  
                   275                  280                  285

5 Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg  
       290                  295                  300

10 Lys Asn Ser  
     305

15 <210> 25  
     <211> 27  
     <212> PRT  
     <213> Secuencia artificial

20 <220>  
     <223> Sintético

    <400> 25

25 Arg Ala Lys Arg Ser Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys  
     1                  5                  10                  15

30 Gln Ala Gly Asp Val Glu Glu Asn Pro Gly Pro  
                   20                  25

    <210> 26  
     <211> 24  
     <212> PRT  
 35 <213> Homo sapiens

    <400> 26

40 Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys  
     1                  5                  10                  15

45 Ser Ala Leu Thr Ile Gln Leu Ile  
                   20

    <210> 27  
     <211> 24  
     <212> PRT  
 50 <213> Homo sapiens

    <400> 27

Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Gly Gly Val Gly Lys  
 1 5 10 15

5  
 Ser Ala Leu Thr Ile Gln Leu Ile  
 20

10 <210> 28  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

15 <400> 28  
 Val Val Gly Ala Asp Gly Val Gly Lys  
 1 5

20  
 <210> 29  
 <211> 10  
 <212> PRT  
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25  
 <400> 29  
 Val Val Val Gly Ala Asp Gly Val Gly Lys  
 1 5 10

30  
 <210> 30  
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 <212> PRT  
 35 <213> Homo sapiens  
 <400> 30

40 Val Val Gly Ala Gly Gly Val Gly Lys  
 1 5

45  
 <210> 31  
 <211> 10  
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 <400> 31

50 Val Val Val Gly Ala Gly Gly Val Gly Lys  
 1 5 10

<210> 32  
 <211> 117  
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 5 <213> Homo sapiens  
  
 <400> 32  
  
 10 Gln Gln Gln Val Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly  
 1 5 10 15  
  
 Gly Ile Ser Ile Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr  
 20 25 30  
 15  
 Phe Pro Trp Tyr Gln Gln Phe Pro Gly Lys Gly Pro Ala Leu Leu Ile  
 35 40 45  
 20  
 Ala Ile Arg Pro Asp Val Ser Glu Lys Lys Glu Gly Arg Phe Thr Ile  
 50 55 60  
 25 Ser Phe Asn Lys Ser Ala Lys Gln Phe Ser Leu His Ile Met Asp Ser  
 65 70 75 80  
 30 Gln Pro Gly Asp Ser Ala Thr Tyr Phe Cys Ala Ala Glu Ala Gly Asn  
 85 90 95  
 His Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln  
 100 105 110  
 35  
 Leu Thr Val Trp Pro  
 115  
 40  
 <210> 33  
 <211> 115  
 <212> PRT  
 45 <213> Homo sapiens  
  
 <400> 33  
  
 50 Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys Thr Arg Gly  
 1 5 10 15  
  
 Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His Arg Ser Val

|    | 20                                                              | 25  | 30  |
|----|-----------------------------------------------------------------|-----|-----|
| 5  | Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe Leu Phe Glu |     |     |
|    | 35                                                              | 40  | 45  |
| 10 | Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro Gly Arg Phe |     |     |
|    | 50                                                              | 55  | 60  |
| 15 | Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn Val Ser Thr |     |     |
|    | 65                                                              | 70  | 75  |
| 20 | Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Leu Ala |     |     |
|    | 85                                                              | 90  | 95  |
| 25 | Ala Gly Gly Tyr Phe Asn Glu Gln Phe Phe Gly Pro Gly Thr Arg Leu |     |     |
|    | 100                                                             | 105 | 110 |
| 30 | Thr Val Leu                                                     |     |     |
|    | 115                                                             |     |     |
| 35 | <210> 34                                                        |     |     |
|    | <211> 254                                                       |     |     |
| 40 | <212> PRT                                                       |     |     |
|    | <213> Secuencia artificial                                      |     |     |
| 45 | <220>                                                           |     |     |
|    | <223> Sintético                                                 |     |     |
| 50 | <220>                                                           |     |     |
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|    | <222> (165)..(165)                                              |     |     |
|    | <223> Xaa es Thr o Cys                                          |     |     |
| 55 | <220>                                                           |     |     |
|    | <221> CARACTERISTICAS_MISC                                      |     |     |
|    | <222> (229)..(229)                                              |     |     |
|    | <223> Xaa es Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, o Trp      |     |     |
| 60 | <220>                                                           |     |     |
|    | <221> CARACTERISTICAS_MISC                                      |     |     |
|    | <222> (231)..(231)                                              |     |     |
|    | <223> Xaa es Met, Ala, Val, Leu, Ile, Pro, Phe, o Trp           |     |     |
| 65 | <220>                                                           |     |     |

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<221>  CARACTERISTICAS_MISC
<222>  (232)..(232)
<223>  Xaa es Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, o Trp

5  <400>  34

    Gln Gln Gln Val Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly
    1          5          10          15

10  Gly Ile Ser Ile Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr
    20          25          30

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

20  Ala Ile Arg Pro Asp Val Ser Glu Lys Lys Glu Gly Arg Phe Thr Ile
    50          55          60

25  Ser Phe Asn Lys Ser Ala Lys Gln Phe Ser Leu His Ile Met Asp Ser
    65          70          75          80

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

30  His Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln
    100          105          110

35  Leu Thr Val Trp Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln
    115          120          125

40  Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp
    130          135          140

    Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe
    145          150          155          160

45  Ile Thr Asp Lys Xaa Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser
    165          170          175

50  Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp
    180          185          190

```

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5  | Ile   | Phe                  | Lys | Glu | Thr | Asn | Ala | Thr | Tyr | Pro | Ser | Ser | Asp | Val | Pro | Cys |
|    |       |                      | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| 10 | Asp   | Ala                  | Thr | Leu | Thr | Glu | Lys | Ser | Phe | Glu | Thr | Asp | Met | Asn | Leu | Asn |
|    |       | 210                  |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| 15 | Phe   | Gln                  | Asn | Leu | Xaa | Val | Xaa | Xaa | Leu | Arg | Ile | Leu | Leu | Leu | Lys | Val |
|    | 225   |                      |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| 20 | Ala   | Gly                  | Phe | Asn | Leu | Leu | Met | Thr | Leu | Arg | Leu | Trp | Ser | Ser |     |     |
|    |       |                      |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     |     |
| 25 | <210> | 35                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <211> | 288                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <212> | PRT                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <213> | Secuencia artificial |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30 | <220> |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <221> | CARACTERISTICAS_MISC |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <222> | (172)..(172)         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <223> | Xaa es Ser o Cys     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 35 | <400> | 35                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | Lys   | Ala                  | Gly | Val | Thr | Gln | Thr | Pro | Arg | Tyr | Leu | Ile | Lys | Thr | Arg | Gly |
|    | 1     |                      |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| 40 | Gln   | Gln                  | Val | Thr | Leu | Ser | Cys | Ser | Pro | Ile | Ser | Gly | His | Arg | Ser | Val |
|    |       |                      |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| 45 | Ser   | Trp                  | Tyr | Gln | Gln | Thr | Pro | Gly | Gln | Gly | Leu | Gln | Phe | Leu | Phe | Glu |
|    |       |                      | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| 50 | Tyr   | Phe                  | Ser | Glu | Thr | Gln | Arg | Asn | Lys | Gly | Asn | Phe | Pro | Gly | Arg | Phe |
|    |       | 50                   |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
|    | Ser   | Gly                  | Arg | Gln | Phe | Ser | Asn | Ser | Arg | Ser | Glu | Met | Asn | Val | Ser | Thr |
|    | 65    |                      |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5  | Leu | Glu | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser | Ser | Leu | Ala | 85  | 90  | 95  |
| 10 | Ala | Gly | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly | Thr | Arg | Leu | 100 | 105 | 110 |
| 15 | Thr | Val | Leu | Glu | Asp | Leu | Arg | Asn | Val | Thr | Pro | Pro | Lys | Val | Ser | Leu | 115 | 120 | 125 |
| 20 | Phe | Glu | Pro | Ser | Lys | Ala | Glu | Ile | Ala | Asn | Lys | Gln | Lys | Ala | Thr | Leu | 130 | 135 | 140 |
| 25 | Val | Cys | Leu | Ala | Arg | Gly | Phe | Phe | Pro | Asp | His | Val | Glu | Leu | Ser | Trp | 145 | 150 | 155 |
| 30 | Trp | Val | Asn | Gly | Lys | Glu | Val | His | Ser | Gly | Val | Xaa | Thr | Asp | Pro | Gln | 165 | 170 | 175 |
| 35 | Ala | Tyr | Lys | Glu | Ser | Asn | Tyr | Ser | Tyr | Cys | Leu | Ser | Ser | Arg | Leu | Arg | 180 | 185 | 190 |
| 40 | Val | Ser | Ala | Thr | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe | Arg | Cys | Gln | 195 | 200 | 205 |
| 45 | Val | Gln | Phe | His | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro | Glu | Gly | Ser | 210 | 215 | 220 |
| 50 | Pro | Lys | Pro | Val | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp | Gly | Arg | Ala | 225 | 230 | 235 |
|    | Asp | Cys | Gly | Ile | Thr | Ser | Ala | Ser | Tyr | Gln | Gln | Gly | Val | Leu | Ser | Ala | 245 | 250 | 255 |
|    | Thr | Ile | Leu | Tyr | Glu | Ile | Leu | Leu | Gly | Lys | Ala | Thr | Leu | Tyr | Ala | Val | 260 | 265 | 270 |
|    | Leu | Val | Ser | Thr | Leu | Val | Val | Met | Ala | Met | Val | Lys | Arg | Lys | Asn | Ser | 275 | 280 | 285 |

<210> 36  
 <211> 254  
 5 <212> PRT  
 <213> Secuencia artificial

<220>  
 <223> Sintético  
 10 <400> 36

Gln Gln Gln Val Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly  
 1 5 10 15  
 15 Gly Ile Ser Ile Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr  
 20 20 25 30  
 Phe Pro Trp Tyr Gln Gln Phe Pro Gly Lys Gly Pro Ala Leu Leu Ile  
 35 40 45  
 25 Ala Ile Arg Pro Asp Val Ser Glu Lys Lys Glu Gly Arg Phe Thr Ile  
 50 55 60  
 30 Ser Phe Asn Lys Ser Ala Lys Gln Phe Ser Leu His Ile Met Asp Ser  
 65 70 75 80  
 Gln Pro Gly Asp Ser Ala Thr Tyr Phe Cys Ala Ala Glu Ala Gly Asn  
 85 90 95  
 35 His Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln  
 100 105 110  
 40 Leu Thr Val Trp Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln  
 115 120 125  
 45 Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp  
 130 135 140  
 50 Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe  
 145 150 155 160

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Ile   | Thr                  | Asp | Lys | Thr | Val | Leu | Asp | Met | Lys | Ala | Met | Asp | Ser | Lys | Ser |  |
|    |       |                      |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 5  | Asn   | Gly                  | Ala | Ile | Ala | Trp | Ser | Asn | Gln | Thr | Ser | Phe | Thr | Cys | Gln | Asp |  |
|    |       |                      |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |
| 10 | Ile   | Phe                  | Lys | Glu | Thr | Asn | Ala | Thr | Tyr | Pro | Ser | Ser | Asp | Val | Pro | Cys |  |
|    |       |                      | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| 15 | Asp   | Ala                  | Thr | Leu | Thr | Glu | Lys | Ser | Phe | Glu | Thr | Asp | Met | Asn | Leu | Asn |  |
|    |       | 210                  |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 20 | Phe   | Gln                  | Asn | Leu | Ser | Val | Met | Gly | Leu | Arg | Ile | Leu | Leu | Leu | Lys | Val |  |
|    | 225   |                      |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| 25 | Ala   | Gly                  | Phe | Asn | Leu | Leu | Met | Thr | Leu | Arg | Leu | Trp | Ser | Ser |     |     |  |
|    |       |                      |     | 245 |     |     |     |     |     | 250 |     |     |     |     |     |     |  |
| 30 | <210> | 37                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <211> | 288                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <212> | PRT                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <213> | Secuencia artificial |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 35 | <220> |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <223> | Sintético            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <400> | 37                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 40 | Lys   | Ala                  | Gly | Val | Thr | Gln | Thr | Pro | Arg | Tyr | Leu | Ile | Lys | Thr | Arg | Gly |  |
|    | 1     |                      |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| 45 | Gln   | Gln                  | Val | Thr | Leu | Ser | Cys | Ser | Pro | Ile | Ser | Gly | His | Arg | Ser | Val |  |
|    |       |                      |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| 50 | Ser   | Trp                  | Tyr | Gln | Gln | Thr | Pro | Gly | Gln | Gly | Leu | Gln | Phe | Leu | Phe | Glu |  |
|    |       |                      | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| 55 | Tyr   | Phe                  | Ser | Glu | Thr | Gln | Arg | Asn | Lys | Gly | Asn | Phe | Pro | Gly | Arg | Phe |  |
|    |       | 50                   |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| 60 | Ser   | Gly                  | Arg | Gln | Phe | Ser | Asn | Ser | Arg | Ser | Glu | Met | Asn | Val | Ser | Thr |  |
|    | 65    |                      |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5  | Leu | Glu | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser | Ser | Leu | Ala | 85  | 90  | 95  |
| 10 | Ala | Gly | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly | Thr | Arg | Leu | 100 | 105 | 110 |
| 15 | Thr | Val | Leu | Glu | Asp | Leu | Arg | Asn | Val | Thr | Pro | Pro | Lys | Val | Ser | Leu | 115 | 120 | 125 |
| 20 | Phe | Glu | Pro | Ser | Lys | Ala | Glu | Ile | Ala | Asn | Lys | Gln | Lys | Ala | Thr | Leu | 130 | 135 | 140 |
| 25 | Val | Cys | Leu | Ala | Arg | Gly | Phe | Phe | Pro | Asp | His | Val | Glu | Leu | Ser | Trp | 145 | 150 | 155 |
| 30 | Trp | Val | Asn | Gly | Lys | Glu | Val | His | Ser | Gly | Val | Ser | Thr | Asp | Pro | Gln | 165 | 170 | 175 |
| 35 | Ala | Tyr | Lys | Glu | Ser | Asn | Tyr | Ser | Tyr | Cys | Leu | Ser | Ser | Arg | Leu | Arg | 180 | 185 | 190 |
| 40 | Val | Ser | Ala | Thr | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe | Arg | Cys | Gln | 195 | 200 | 205 |
| 45 | Val | Gln | Phe | His | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro | Glu | Gly | Ser | 210 | 215 | 220 |
| 50 | Pro | Lys | Pro | Val | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp | Gly | Arg | Ala | 225 | 230 | 235 |
|    | Asp | Cys | Gly | Ile | Thr | Ser | Ala | Ser | Tyr | Gln | Gln | Gly | Val | Leu | Ser | Ala | 245 | 250 | 255 |
|    | Thr | Ile | Leu | Tyr | Glu | Ile | Leu | Leu | Gly | Lys | Ala | Thr | Leu | Tyr | Ala | Val | 260 | 265 | 270 |
|    | Leu | Val | Ser | Thr | Leu | Val | Val | Met | Ala | Met | Val | Lys | Arg | Lys | Asn | Ser | 275 | 280 | 285 |

5 <210> 38  
 <211> 137  
 <212> PRT  
 <213> Secuencia artificial  
  
 10 <220>  
 <223> Sintético  
 <400> 38  
  
 Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg  
 1 5 10 15  
 15 Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile  
 20 20 25 30  
 20 Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Cys  
 35 40 45  
 25 Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala  
 50 55 60  
 30 Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr  
 65 70 75 80  
 35 Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr  
 85 90 95  
 40 Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Leu  
 100 105 110  
 40 Val Ile Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu  
 115 120 125  
 45 Leu Met Thr Leu Arg Leu Trp Ser Ser  
 130 135  
 50 <210> 39  
 <211> 173  
 <212> PRT  
 <213> Secuencia artificial

&lt;220&gt;

&lt;223&gt; Sintético

5 &lt;400&gt; 39

Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro  
 1 5 10 15

10

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

15

Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp Val Asn  
 35 40 45

20

Gly Lys Glu Val His Ser Gly Val Cys Thr Asp Pro Gln Ala Tyr Lys  
 50 55 60

25

Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala  
 65 70 75 80

Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe  
 85 90 95

30

His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro  
 100 105 110

35

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

40

Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu  
 130 135 140

45

Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu Val Ser  
 145 150 155 160

Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser  
 165 170

50

&lt;210&gt; 40

&lt;211&gt; 282

<212> PRT  
 <213> Secuencia artificial  
  
 <220>  
 5 <223> Sintético  
  
 <400> 40  
  
 10 Met Asp Lys Ile Leu Gly Ala Ser Phe Leu Val Leu Trp Leu Gln Leu  
 1 5 10 15  
  
 Cys Trp Val Ser Gly Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val  
 20 25 30  
 15  
 Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly Gly Ile Ser Ile  
 35 40 45  
 20  
 Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr  
 50 55 60  
 25 Gln Gln Phe Pro Gly Lys Gly Pro Ala Leu Leu Ile Ala Ile Arg Pro  
 65 70 75 80  
 30 Asp Val Ser Glu Lys Lys Glu Gly Arg Phe Thr Ile Ser Phe Asn Lys  
 85 90 95  
 Ser Ala Lys Gln Phe Ser Leu His Ile Met Asp Ser Gln Pro Gly Asp  
 100 105 110  
 35  
 Ser Ala Thr Tyr Phe Cys Ala Ala Glu Ala Gly Asn His Arg Gly Ser  
 115 120 125  
 40  
 Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln Leu Thr Val Trp  
 130 135 140  
 45 Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro  
 145 150 155 160  
 50 Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln  
 165 170 175

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|    | Ile   | Asn                  | Val | Pro | Lys | Thr | Met | Glu | Ser | Gly | Thr | Phe | Ile | Thr | Asp | Lys |
|    |       |                      |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| 5  | Cys   | Val                  | Leu | Asp | Met | Lys | Ala | Met | Asp | Ser | Lys | Ser | Asn | Gly | Ala | Ile |
|    |       |                      | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| 10 | Ala   | Trp                  | Ser | Asn | Gln | Thr | Ser | Phe | Thr | Cys | Gln | Asp | Ile | Phe | Lys | Glu |
|    |       | 210                  |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| 15 | Thr   | Asn                  | Ala | Thr | Tyr | Pro | Ser | Ser | Asp | Val | Pro | Cys | Asp | Ala | Thr | Leu |
|    | 225   |                      |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| 20 | Thr   | Glu                  | Lys | Ser | Phe | Glu | Thr | Asp | Met | Asn | Leu | Asn | Phe | Gln | Asn | Leu |
|    |       |                      |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| 25 | Leu   | Val                  | Ile | Val | Leu | Arg | Ile | Leu | Leu | Leu | Lys | Val | Ala | Gly | Phe | Asn |
|    |       |                      |     | 260 |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| 30 | Leu   | Leu                  | Met | Thr | Leu | Arg | Leu | Trp | Ser | Ser |     |     |     |     |     |     |
|    |       |                      | 275 |     |     |     |     | 280 |     |     |     |     |     |     |     |     |
|    | <210> | 41                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <211> | 307                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <212> | PRT                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <213> | Secuencia artificial |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <220> |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 35 | <223> | Sintético            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <400> | 41                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40 | Met   | Ala                  | Ser | Arg | Leu | Leu | Cys | Trp | Val | Leu | Leu | Cys | Leu | Leu | Gly | Ala |
|    | 1     |                      |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| 45 | Gly   | Pro                  | Val | Lys | Ala | Gly | Val | Thr | Gln | Thr | Pro | Arg | Tyr | Leu | Ile | Lys |
|    |       |                      |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| 50 | Thr   | Arg                  | Gly | Gln | Gln | Val | Thr | Leu | Ser | Cys | Ser | Pro | Ile | Ser | Gly | His |
|    |       |                      | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
|    | Arg   | Ser                  | Val | Ser | Trp | Tyr | Gln | Gln | Thr | Pro | Gly | Gln | Gly | Leu | Gln | Phe |
|    |       | 50                   |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

|    |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
|----|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5  | Leu<br>65  | Phe        | Glu        | Tyr        | Phe        | Ser<br>70  | Glu        | Thr        | Gln        | Arg        | Asn<br>75  | Lys        | Gly        | Asn        | Phe        | Pro<br>80  |
| 10 | Gly        | Arg        | Phe        | Ser        | Gly<br>85  | Arg        | Gln        | Phe        | Ser        | Asn<br>90  | Ser        | Arg        | Ser        | Glu        | Met<br>95  | Asn        |
| 15 | Val        | Ser        | Thr        | Leu<br>100 | Glu        | Leu        | Gly        | Asp        | Ser<br>105 | Ala        | Leu        | Tyr        | Leu        | Cys<br>110 | Ala        | Ser        |
| 20 | Ser        | Leu        | Ala<br>115 | Ala        | Gly        | Gly        | Tyr        | Phe<br>120 | Asn        | Glu        | Gln        | Phe        | Phe<br>125 | Gly        | Pro        | Gly        |
| 25 | Thr        | Arg<br>130 | Leu        | Thr        | Val        | Leu        | Glu<br>135 | Asp        | Leu        | Arg        | Asn        | Val<br>140 | Thr        | Pro        | Pro        | Lys        |
| 30 | Val<br>145 | Ser        | Leu        | Phe        | Glu        | Pro<br>150 | Ser        | Lys        | Ala        | Glu        | Ile<br>155 | Ala        | Asn        | Lys        | Gln        | Lys<br>160 |
| 35 | Ala        | Thr        | Leu        | Val        | Cys<br>165 | Leu        | Ala        | Arg        | Gly        | Phe<br>170 | Phe        | Pro        | Asp        | His        | Val<br>175 | Glu        |
| 40 | Leu        | Ser        | Trp        | Trp<br>180 | Val        | Asn        | Gly        | Lys        | Glu<br>185 | Val        | His        | Ser        | Gly        | Val<br>190 | Cys        | Thr        |
| 45 | Asp        | Pro        | Gln<br>195 | Ala        | Tyr        | Lys        | Glu        | Ser<br>200 | Asn        | Tyr        | Ser        | Tyr        | Cys<br>205 | Leu        | Ser        | Ser        |
| 50 | Arg        | Leu<br>210 | Arg        | Val        | Ser        | Ala        | Thr<br>215 | Phe        | Trp        | His        | Asn        | Pro<br>220 | Arg        | Asn        | His        | Phe        |
|    | Arg        | Cys        | Gln        | Val        | Gln        | Phe<br>230 | His        | Gly        | Leu        | Ser        | Glu<br>235 | Glu        | Asp        | Lys        | Trp        | Pro<br>240 |
|    | Glu        | Gly        | Ser        | Pro        | Lys<br>245 | Pro        | Val        | Thr        | Gln        | Asn<br>250 | Ile        | Ser        | Ala        | Glu        | Ala<br>255 | Trp        |
|    | Gly        | Arg        | Ala        | Asp<br>260 | Cys        | Gly        | Ile        | Thr        | Ser<br>265 | Ala        | Ser        | Tyr        | Gln        | Gln<br>270 | Gly        | Val        |

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5  | Leu   | Ser                  | Ala | Thr | Ile | Leu | Tyr | Glu | Ile | Leu | Leu | Gly | Lys | Ala | Thr | Leu |
|    |       |                      | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
|    | Tyr   | Ala                  | Val | Leu | Val | Ser | Thr | Leu | Val | Val | Met | Ala | Met | Val | Lys | Arg |
|    |       | 290                  |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| 10 | Lys   | Asn                  | Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | 305   |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15 | <210> | 42                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <211> | 254                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <212> | PRT                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <213> | Secuencia artificial |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20 | <220> |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <223> | Sintético            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <400> | 42                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 25 | Gln   | Gln                  | Gln | Val | Lys | Gln | Ser | Pro | Gln | Ser | Leu | Ile | Val | Gln | Lys | Gly |
|    | 1     |                      |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| 30 | Gly   | Ile                  | Ser | Ile | Ile | Asn | Cys | Ala | Tyr | Glu | Asn | Thr | Ala | Phe | Asp | Tyr |
|    |       |                      |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| 35 | Phe   | Pro                  | Trp | Tyr | Gln | Gln | Phe | Pro | Gly | Lys | Gly | Pro | Ala | Leu | Leu | Ile |
|    |       |                      | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| 40 | Ala   | Ile                  | Arg | Pro | Asp | Val | Ser | Glu | Lys | Lys | Glu | Gly | Arg | Phe | Thr | Ile |
|    |       | 50                   |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| 45 | Ser   | Phe                  | Asn | Lys | Ser | Ala | Lys | Gln | Phe | Ser | Leu | His | Ile | Met | Asp | Ser |
|    | 65    |                      |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| 50 | Gln   | Pro                  | Gly | Asp | Ser | Ala | Thr | Tyr | Phe | Cys | Ala | Ala | Glu | Ala | Gly | Asn |
|    |       |                      |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| 55 | His   | Arg                  | Gly | Ser | Thr | Leu | Gly | Arg | Leu | Tyr | Phe | Gly | Arg | Gly | Thr | Gln |
|    |       |                      |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Leu   | Thr                  | Val | Trp | Pro | Asn | Ile | Gln | Asn | Pro | Glu | Pro | Ala | Val | Tyr | Gln |  |
|    |       |                      | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| 5  | Leu   | Lys                  | Asp | Pro | Arg | Ser | Gln | Asp | Ser | Thr | Leu | Cys | Leu | Phe | Thr | Asp |  |
|    |       | 130                  |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| 10 | Phe   | Asp                  | Ser | Gln | Ile | Asn | Val | Pro | Lys | Thr | Met | Glu | Ser | Gly | Thr | Phe |  |
|    | 145   |                      |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| 15 | Ile   | Thr                  | Asp | Lys | Cys | Val | Leu | Asp | Met | Lys | Ala | Met | Asp | Ser | Lys | Ser |  |
|    |       |                      |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 20 | Asn   | Gly                  | Ala | Ile | Ala | Trp | Ser | Asn | Gln | Thr | Ser | Phe | Thr | Cys | Gln | Asp |  |
|    |       |                      |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| 25 | Ile   | Phe                  | Lys | Glu | Thr | Asn | Ala | Thr | Tyr | Pro | Ser | Ser | Asp | Val | Pro | Cys |  |
|    |       |                      | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| 30 | Asp   | Ala                  | Thr | Leu | Thr | Glu | Lys | Ser | Phe | Glu | Thr | Asp | Met | Asn | Leu | Asn |  |
|    |       | 210                  |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 35 | Phe   | Gln                  | Asn | Leu | Leu | Val | Ile | Val | Leu | Arg | Ile | Leu | Leu | Leu | Lys | Val |  |
|    | 225   |                      |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     | 240 |  |
| 40 | Ala   | Gly                  | Phe | Asn | Leu | Leu | Met | Thr | Leu | Arg | Leu | Trp | Ser | Ser |     |     |  |
|    |       |                      |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     |     |  |
| 45 | <210> | 43                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <211> | 288                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <212> | PRT                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <213> | Secuencia artificial |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
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| 5  | Ser | Trp | Tyr | Gln | Gln | Thr | Pro | Gly | Gln | Gly | Leu | Gln | Phe | Leu | Phe | Glu |
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| 10 | Tyr | Phe | Ser | Glu | Thr | Gln | Arg | Asn | Lys | Gly | Asn | Phe | Pro | Gly | Arg | Phe |
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| 20 | Leu | Glu | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser | Ser | Leu | Ala |
|    |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| 25 | Ala | Gly | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly | Thr | Arg | Leu |
|    |     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| 30 | Thr | Val | Leu | Glu | Asp | Leu | Arg | Asn | Val | Thr | Pro | Pro | Lys | Val | Ser | Leu |
|    |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| 35 | Phe | Glu | Pro | Ser | Lys | Ala | Glu | Ile | Ala | Asn | Lys | Gln | Lys | Ala | Thr | Leu |
|    |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| 40 | Val | Cys | Leu | Ala | Arg | Gly | Phe | Phe | Pro | Asp | His | Val | Glu | Leu | Ser | Trp |
|    | 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| 45 | Trp | Val | Asn | Gly | Lys | Glu | Val | His | Ser | Gly | Val | Cys | Thr | Asp | Pro | Gln |
|    |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| 50 | Ala | Tyr | Lys | Glu | Ser | Asn | Tyr | Ser | Tyr | Cys | Leu | Ser | Ser | Arg | Leu | Arg |
|    |     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
|    | Val | Ser | Ala | Thr | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe | Arg | Cys | Gln |
|    |     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
|    | Val | Gln | Phe | His | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro | Glu | Gly | Ser |
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|    | Pro | Lys | Pro | Val | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp | Gly | Arg | Ala |
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|    |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| 5  | Val | Ser | Thr | Leu | Glu | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser |
|    |     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| 10 | Ser | Leu | Ala | Ala | Gly | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly |
|    |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| 15 | Thr | Arg | Leu | Thr | Val | Leu | Glu | Asp | Leu | Arg | Asn | Val | Thr | Pro | Pro | Lys |
|    |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| 20 | Val | Ser | Leu | Phe | Glu | Pro | Ser | Lys | Ala | Glu | Ile | Ala | Asn | Lys | Gln | Lys |
|    | 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| 25 | Ala | Thr | Leu | Val | Cys | Leu | Ala | Arg | Gly | Phe | Phe | Pro | Asp | His | Val | Glu |
|    |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| 30 | Leu | Ser | Trp | Trp | Val | Asn | Gly | Lys | Glu | Val | His | Ser | Gly | Val | Cys | Thr |
|    |     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| 35 | Asp | Pro | Gln | Ala | Tyr | Lys | Glu | Ser | Asn | Tyr | Ser | Tyr | Cys | Leu | Ser | Ser |
|    |     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| 40 | Arg | Leu | Arg | Val | Ser | Ala | Thr | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe |
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| 45 | Arg | Cys | Gln | Val | Gln | Phe | His | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro |
|    | 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| 50 | Glu | Gly | Ser | Pro | Lys | Pro | Val | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp |
|    |     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| 55 | Gly | Arg | Ala | Asp | Cys | Gly | Ile | Thr | Ser | Ala | Ser | Tyr | Gln | Gln | Gly | Val |
|    |     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| 60 | Leu | Ser | Ala | Thr | Ile | Leu | Tyr | Glu | Ile | Leu | Leu | Gly | Lys | Ala | Thr | Leu |
|    |     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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|    | Tyr | Ala | Val | Leu | Val | Ser | Thr | Leu | Val | Val | Met | Ala | Met | Val | Lys | Arg |
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|    | 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| 10 | Leu | Leu | Lys | Gln | Ala | Gly | Asp | Val | Glu | Glu | Asn | Pro | Gly | Pro | Met | Asp |
|    |     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| 15 | Lys | Ile | Leu | Gly | Ala | Ser | Phe | Leu | Val | Leu | Trp | Leu | Gln | Leu | Cys | Trp |
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| 20 | Val | Ser | Gly | Gln | Gln | Lys | Glu | Lys | Ser | Asp | Gln | Gln | Gln | Val | Lys | Gln |
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| 25 | Ser | Pro | Gln | Ser | Leu | Ile | Val | Gln | Lys | Gly | Gly | Ile | Ser | Ile | Ile | Asn |
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| 30 | Cys | Ala | Tyr | Glu | Asn | Thr | Ala | Phe | Asp | Tyr | Phe | Pro | Trp | Tyr | Gln | Gln |
|    | 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| 35 | Phe | Pro | Gly | Lys | Gly | Pro | Ala | Leu | Leu | Ile | Ala | Ile | Arg | Pro | Asp | Val |
|    |     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| 40 | Ser | Glu | Lys | Lys | Glu | Gly | Arg | Phe | Thr | Ile | Ser | Phe | Asn | Lys | Ser | Ala |
|    |     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| 45 | Lys | Gln | Phe | Ser | Leu | His | Ile | Met | Asp | Ser | Gln | Pro | Gly | Asp | Ser | Ala |
|    |     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| 50 | Thr | Tyr | Phe | Cys | Ala | Ala | Glu | Ala | Gly | Asn | His | Arg | Gly | Ser | Thr | Leu |
|    | 450 |     |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| 55 | Gly | Arg | Leu | Tyr | Phe | Gly | Arg | Gly | Thr | Gln | Leu | Thr | Val | Trp | Pro | Asn |
|    | 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| 60 | Ile | Gln | Asn | Pro | Glu | Pro | Ala | Val | Tyr | Gln | Leu | Lys | Asp | Pro | Arg | Ser |
|    |     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|    | Gln   | Asp                  | Ser | Thr | Leu | Cys | Leu | Phe | Thr | Asp | Phe | Asp | Ser | Gln | Ile | Asn |
|    |       |                      |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| 5  | Val   | Pro                  | Lys | Thr | Met | Glu | Ser | Gly | Thr | Phe | Ile | Thr | Asp | Lys | Cys | Val |
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| 10 | Leu   | Asp                  | Met | Lys | Ala | Met | Asp | Ser | Lys | Ser | Asn | Gly | Ala | Ile | Ala | Trp |
|    |       | 530                  |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| 15 | Ser   | Asn                  | Gln | Thr | Ser | Phe | Thr | Cys | Gln | Asp | Ile | Phe | Lys | Glu | Thr | Asn |
|    | 545   |                      |     |     |     | 550 |     |     |     | 555 |     |     |     |     |     | 560 |
| 20 | Ala   | Thr                  | Tyr | Pro | Ser | Ser | Asp | Val | Pro | Cys | Asp | Ala | Thr | Leu | Thr | Glu |
|    |       |                      |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| 25 | Lys   | Ser                  | Phe | Glu | Thr | Asp | Met | Asn | Leu | Asn | Phe | Gln | Asn | Leu | Leu | Val |
|    |       |                      |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| 30 | Ile   | Val                  | Leu | Arg | Ile | Leu | Leu | Leu | Lys | Val | Ala | Gly | Phe | Asn | Leu | Leu |
|    |       |                      | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| 35 | Met   | Thr                  | Leu | Arg | Leu | Trp | Ser | Ser |     |     |     |     |     |     |     |     |
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| 45 | Met   | Thr                  | Glu | Tyr | Lys | Leu | Val | Val | Val | Gly | Ala | Gly | Gly | Val | Gly | Lys |
|    | 1     |                      |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| 50 | Ser   | Ala                  | Leu | Thr | Ile | Gln | Leu | Ile | Met | Thr | Glu | Tyr | Lys | Leu | Val | Val |
|    |       |                      | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
|    | Val   | Gly                  | Ala | Gly | Gly | Val | Gly | Lys | Ser | Ala | Leu | Thr | Ile | Gln | Leu | Ile |
|    |       |                      | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

|    |            |                      |            |            |           |           |           |            |            |           |           |           |            |           |           |           |
|----|------------|----------------------|------------|------------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
| 5  | Gln<br>50  | Glu                  | Thr        | Cys        | Leu       | Leu       | Asp<br>55 | Ile        | Leu        | Asp       | Thr       | Ala<br>60 | Gly        | Gln       | Glu       | Glu       |
|    | Tyr<br>65  | Ser                  | Ala        | Met        | Arg       | Asp<br>70 | Gln       | Tyr        | Met        | Arg       |           |           |            |           |           |           |
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| 25 | Ser        | Ala                  | Leu        | Thr<br>20  | Ile       | Gln       | Leu       | Ile        | Met<br>25  | Thr       | Glu       | Tyr       | Lys        | Leu<br>30 | Val       | Val       |
| 30 | Val        | Gly                  | Ala<br>35  | Val        | Gly       | Val       | Gly       | Lys<br>40  | Ser        | Ala       | Leu       | Thr       | Ile<br>45  | Gln       | Leu       | Ile       |
| 35 | Met<br>50  | Thr                  | Glu        | Tyr        | Lys       | Leu       | Val<br>55 | Val        | Val        | Gly       | Ala       | Cys<br>60 | Gly        | Val       | Gly       | Lys       |
| 40 | Ser<br>65  | Ala                  | Leu        | Thr        | Ile<br>70 | Gln       | Leu       | Ile        | Met        | Thr       | Glu<br>75 | Tyr       | Lys        | Leu       | Val       | Val<br>80 |
| 45 | Val        | Gly                  | Ala        | Ala        | Gly<br>85 | Val       | Gly       | Lys        | Ser        | Ala<br>90 | Leu       | Thr       | Ile        | Gln       | Leu<br>95 | Ile       |
| 50 | Met<br>100 | Thr                  | Glu        | Tyr<br>105 | Lys       | Leu       | Val       | Val        | Val<br>110 | Gly       | Ala       | Ser       | Gly<br>115 | Val       | Gly       | Lys       |
| 55 | Ser        | Ala                  | Leu<br>120 | Thr        | Ile       | Gln       | Leu       | Ile<br>125 | Met        | Thr       | Glu       | Tyr       | Lys<br>130 | Leu       | Val       | Val       |

|    |       |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Val   | Gly          | Ala | Gly | Asp | Val | Gly | Lys | Ser | Ala | Leu | Thr | Ile | Gln | Leu | Ile |  |
|    |       | 130          |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| 5  | Gln   | Met          | Thr | Glu | Tyr | Lys | Leu | Val | Val | Val | Gly | Ala | Gly | Arg | Val | Gly |  |
|    | 145   |              |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| 10 | Lys   | Ser          | Ala | Leu | Thr | Ile | Gln | Leu | Ile | Gln | Met | Thr | Glu | Tyr | Lys | Leu |  |
|    |       |              |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 15 | Val   | Val          | Val | Gly | Ala | Gly | Val | Val | Gly | Lys | Ser | Ala | Leu | Thr | Ile | Gln |  |
|    |       |              |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| 20 | Leu   | Ile          | Gln | Glu | Thr | Cys | Leu | Leu | Asp | Ile | Leu | Asp | Thr | Ala | Gly | Arg |  |
|    |       |              | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| 25 | Glu   | Glu          | Tyr | Ser | Ala | Met | Arg | Asp | Gln | Tyr | Met | Arg | Glu | Thr | Cys | Leu |  |
|    | 210   |              |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 30 | Leu   | Asp          | Ile | Leu | Asp | Thr | Ala | Gly | Leu | Glu | Glu | Tyr | Ser | Ala | Met | Arg |  |
|    | 225   |              |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| 35 | Asp   | Gln          | Tyr | Met | Arg | Glu | Thr | Cys | Leu | Leu | Asp | Ile | Leu | Asp | Thr | Ala |  |
|    |       |              |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| 40 | Gly   | Lys          | Glu | Glu | Tyr | Ser | Ala | Met | Arg | Asp | Gln | Tyr | Met | Arg | Glu | Thr |  |
|    |       |              | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| 45 | Cys   | Leu          | Leu | Asp | Ile | Leu | Asp | Thr | Ala | Gly | His | Glu | Glu | Tyr | Ser | Ala |  |
|    |       |              | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| 50 | Met   | Arg          | Asp | Gln | Tyr | Met | Arg |     |     |     |     |     |     |     |     |     |  |
|    | 290   |              |     |     |     |     | 295 |     |     |     |     |     |     |     |     |     |  |
| 55 | <210> | 50           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <211> | 10           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <212> | PRT          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <213> | Homo sapiens |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 60 | <400> | 50           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | Lys   | Leu          | Val | Val | Val | Gly | Ala | Asp | Gly | Val |     |     |     |     |     |     |  |

|    |   |    |                                                                                |
|----|---|----|--------------------------------------------------------------------------------|
| 1  | 5 | 10 |                                                                                |
| 5  |   |    | <210> 51<br><211> 145<br><212> PRT<br><213> Secuencia artificial               |
| 10 |   |    | <220><br><223> Sintético                                                       |
|    |   |    | <400> 51                                                                       |
| 15 |   |    | Met Ala Lys Ile Leu Gly Ala Ser Phe Leu Val Leu Trp Leu Gln Leu<br>1 5 10 15   |
| 20 |   |    | Cys Trp Val Ser Gly Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val<br>20 25 30    |
| 25 |   |    | Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly Gly Ile Ser Ile<br>35 40 45    |
| 30 |   |    | Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr<br>50 55 60    |
| 35 |   |    | Gln Gln Phe Pro Gly Lys Gly Pro Ala Leu Leu Ile Ala Ile Arg Pro<br>65 70 75 80 |
| 40 |   |    | Asp Val Ser Glu Lys Lys Glu Gly Arg Phe Thr Ile Ser Phe Asn Lys<br>85 90 95    |
| 45 |   |    | Ser Ala Lys Gln Phe Ser Leu His Ile Met Asp Ser Gln Pro Gly Asp<br>100 105 110 |
| 50 |   |    | Ser Ala Thr Tyr Phe Cys Ala Ala Glu Ala Gly Asn His Arg Gly Ser<br>115 120 125 |
|    |   |    | Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln Leu Thr Val Trp<br>130 135 140 |
|    |   |    | Pro<br>145                                                                     |

<210> 52  
 <211> 134  
 <212> PRT  
 5 <213> Homo sapiens  
  
 <400> 52  
  
 10 Met Gly Ser Arg Leu Leu Cys Trp Val Leu Leu Cys Leu Leu Gly Ala  
 1 5 10 15  
  
 Gly Pro Val Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys  
 20 25 30  
 15  
 Thr Arg Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His  
 35 40 45  
 20  
 Arg Ser Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe  
 50 55 60  
 25  
 Leu Phe Glu Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro  
 65 70 75 80  
 30  
 Gly Arg Phe Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn  
 85 90 95  
 35  
 Val Ser Thr Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser  
 100 105 110  
 Ser Leu Ala Ala Gly Gly Tyr Phe Asn Glu Gln Phe Phe Gly Pro Gly  
 115 120 125  
 40  
 Thr Arg Leu Thr Val Leu  
 130  
 45 <210> 53  
 <211> 282  
 <212> PRT  
 <213> Secuencia artificial  
 50 <220>  
 <223> Sintético

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<220>
<221>  CARACTERISTICAS_MISC
<222>  (193)..(193)
5  <223>  Xaa es Thr o Cys

<220>
<221>  CARACTERISTICAS_MISC
<222>  (257)..(257)
10 <223>  Xaa es Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, o Trp

<220>
<221>  CARACTERISTICAS_MISC
<222>  (259)..(259)
15 <223>  Xaa es Met, Ala, Val, Leu, Ile, Pro, Phe, o Trp

<220>
<221>  CARACTERISTICAS_MISC
<222>  (260)..(260)
20 <223>  Xaa es Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, o Trp

<400>  53

Met Ala Lys Ile Leu Gly Ala Ser Phe Leu Val Leu Trp Leu Gln Leu
25  1          5          10          15

Cys Trp Val Ser Gly Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val
30          20          25          30

Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly Gly Ile Ser Ile
35          35          40          45

Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr
50          55          60

Gln Gln Phe Pro Gly Lys Gly Pro Ala Leu Leu Ile Ala Ile Arg Pro
40  65          70          75          80

Asp Val Ser Glu Lys Lys Glu Gly Arg Phe Thr Ile Ser Phe Asn Lys
45          85          90          95

Ser Ala Lys Gln Phe Ser Leu His Ile Met Asp Ser Gln Pro Gly Asp
50          100          105          110

Ser Ala Thr Tyr Phe Cys Ala Ala Glu Ala Gly Asn His Arg Gly Ser

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|    | 115                                                                                | 120 | 125 |
|----|------------------------------------------------------------------------------------|-----|-----|
| 5  | Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln Leu Thr Val Trp<br>130 135 140     |     |     |
| 10 | Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro<br>145 150 155 160 |     |     |
| 15 | Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln<br>165 170 175     |     |     |
| 20 | Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys<br>180 185 190     |     |     |
| 25 | Xaa Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile<br>195 200 205     |     |     |
| 30 | Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu<br>210 215 220     |     |     |
| 35 | Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu<br>225 230 235 240 |     |     |
| 40 | Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu<br>245 250 255     |     |     |
| 45 | Xaa Val Xaa Xaa Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn<br>260 265 270     |     |     |
| 50 | Leu Leu Met Thr Leu Arg Leu Trp Ser Ser<br>275 280                                 |     |     |
|    | <210> 54                                                                           |     |     |
|    | <211> 307                                                                          |     |     |
|    | <212> PRT                                                                          |     |     |
|    | <213> Secuencia artificial                                                         |     |     |
|    | <220>                                                                              |     |     |
|    | <223> Sintético                                                                    |     |     |

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<220>
<221>  CARACTERISTICAS_MISC
<222>  (191)..(191)
<223>  Xaa es Ser o Cys
5
<400>  54

Met Gly Ser Arg Leu Leu Cys Trp Val Leu Leu Cys Leu Leu Gly Ala
1      5      10      15

10 Gly Pro Val Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys
      20      25      30

15 Thr Arg Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His
      35      40      45

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

25 Leu Phe Glu Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro
      65      70      75      80

30 Gly Arg Phe Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn
      85      90      95

35 Val Ser Thr Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser
      100      105      110

40 Ser Leu Ala Ala Gly Gly Tyr Phe Asn Glu Gln Phe Phe Gly Pro Gly
      115      120      125

45 Thr Arg Leu Thr Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys
      130      135      140

50 Val Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys
      145      150      155      160

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

Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Xaa Thr

```

|    | 180                                                                                | 185 | 190 |
|----|------------------------------------------------------------------------------------|-----|-----|
| 5  | Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser<br>195 200 205     |     |     |
| 10 | Arg Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe<br>210 215 220     |     |     |
| 15 | Arg Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro<br>225 230 235 240 |     |     |
| 20 | Glu Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp<br>245 250 255     |     |     |
| 25 | Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val<br>260 265 270     |     |     |
| 30 | Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu<br>275 280 285     |     |     |
| 35 | Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg<br>290 295 300     |     |     |
| 40 | Lys Asn Ser<br>305                                                                 |     |     |
| 45 | <210> 55<br><211> 282<br><212> PRT<br><213> Secuencia artificial                   |     |     |
| 50 | <220><br><223> Sintético                                                           |     |     |
| 55 | <400> 55                                                                           |     |     |
| 60 | Met Ala Lys Ile Leu Gly Ala Ser Phe Leu Val Leu Trp Leu Gln Leu<br>1 5 10 15       |     |     |
| 65 | Cys Trp Val Ser Gly Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val<br>20 25 30        |     |     |

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Lys | Gln | Ser | Pro | Gln | Ser | Leu | Ile | Val | Gln | Lys | Gly | Gly | Ile | Ser | Ile |  |
|    |     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| 5  | Ile | Asn | Cys | Ala | Tyr | Glu | Asn | Thr | Ala | Phe | Asp | Tyr | Phe | Pro | Trp | Tyr |  |
|    |     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |
| 10 | Gln | Gln | Phe | Pro | Gly | Lys | Gly | Pro | Ala | Leu | Leu | Ile | Ala | Ile | Arg | Pro |  |
|    | 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| 15 | Asp | Val | Ser | Glu | Lys | Lys | Glu | Gly | Arg | Phe | Thr | Ile | Ser | Phe | Asn | Lys |  |
|    |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| 20 | Ser | Ala | Lys | Gln | Phe | Ser | Leu | His | Ile | Met | Asp | Ser | Gln | Pro | Gly | Asp |  |
|    |     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| 25 | Ser | Ala | Thr | Tyr | Phe | Cys | Ala | Ala | Glu | Ala | Gly | Asn | His | Arg | Gly | Ser |  |
|    |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| 30 | Thr | Leu | Gly | Arg | Leu | Tyr | Phe | Gly | Arg | Gly | Thr | Gln | Leu | Thr | Val | Trp |  |
|    | 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| 35 | Pro | Asn | Ile | Gln | Asn | Pro | Glu | Pro | Ala | Val | Tyr | Gln | Leu | Lys | Asp | Pro |  |
|    | 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| 40 | Arg | Ser | Gln | Asp | Ser | Thr | Leu | Cys | Leu | Phe | Thr | Asp | Phe | Asp | Ser | Gln |  |
|    |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 45 | Ile | Asn | Val | Pro | Lys | Thr | Met | Glu | Ser | Gly | Thr | Phe | Ile | Thr | Asp | Lys |  |
|    |     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| 50 | Thr | Val | Leu | Asp | Met | Lys | Ala | Met | Asp | Ser | Lys | Ser | Asn | Gly | Ala | Ile |  |
|    |     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| 55 | Ala | Trp | Ser | Asn | Gln | Thr | Ser | Phe | Thr | Cys | Gln | Asp | Ile | Phe | Lys | Glu |  |
|    | 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 60 | Thr | Asn | Ala | Thr | Tyr | Pro | Ser | Ser | Asp | Val | Pro | Cys | Asp | Ala | Thr | Leu |  |
|    | 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |

Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu  
 245 250 255  
 5 Ser Val Met Gly Leu Arg Ile Leu Leu Lys Val Ala Gly Phe Asn  
 260 265 270  
 10 Leu Leu Met Thr Leu Arg Leu Trp Ser Ser  
 275 280  
 15 <210> 56  
 <211> 307  
 <212> PRT  
 <213> Secuencia artificial  
 20 <220>  
 <223> Sintético  
 <400> 56  
 25 Met Gly Ser Arg Leu Leu Cys Trp Val Leu Leu Cys Leu Leu Gly Ala  
 1 5 10 15  
 Gly Pro Val Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys  
 20 25 30  
 30 Thr Arg Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His  
 35 35 40 45  
 35 Arg Ser Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe  
 50 55 60  
 40 Leu Phe Glu Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro  
 65 70 75 80  
 45 Gly Arg Phe Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn  
 85 90 95  
 Val Ser Thr Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser  
 100 105 110  
 50 Ser Leu Ala Ala Gly Gly Tyr Phe Asn Glu Gln Phe Phe Gly Pro Gly

|    | 115                                                                                | 120 | 125 |
|----|------------------------------------------------------------------------------------|-----|-----|
| 5  | Thr Arg Leu Thr Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys<br>130 135 140     |     |     |
| 10 | Val Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys<br>145 150 155 160 |     |     |
| 15 | Ala Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu<br>165 170 175     |     |     |
| 20 | Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr<br>180 185 190     |     |     |
| 25 | Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser<br>195 200 205     |     |     |
| 30 | Arg Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe<br>210 215 220     |     |     |
| 35 | Arg Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro<br>225 230 235 240 |     |     |
| 40 | Glu Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp<br>245 250 255     |     |     |
| 45 | Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val<br>260 265 270     |     |     |
| 50 | Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu<br>275 280 285     |     |     |
|    | Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg<br>290 295 300     |     |     |
|    | Lys Asn Ser<br>305                                                                 |     |     |
|    | <210> 57                                                                           |     |     |

<211> 282  
 <212> PRT  
 <213> Secuencia artificial

5 <220>  
 <223> Sintético

<400> 57

10 Met Ala Lys Ile Leu Gly Ala Ser Phe Leu Val Leu Trp Leu Gln Leu  
 1 5 10 15

15 Cys Trp Val Ser Gly Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val  
 20 25 30

20 Lys Gln Ser Pro Gln Ser Leu Ile Val Gln Lys Gly Gly Ile Ser Ile  
 35 40 45

Ile Asn Cys Ala Tyr Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr  
 50 55 60

25 Gln Gln Phe Pro Gly Lys Gly Pro Ala Leu Leu Ile Ala Ile Arg Pro  
 65 70 75 80

30 Asp Val Ser Glu Lys Lys Glu Gly Arg Phe Thr Ile Ser Phe Asn Lys  
 85 90 95

35 Ser Ala Lys Gln Phe Ser Leu His Ile Met Asp Ser Gln Pro Gly Asp  
 100 105 110

40 Ser Ala Thr Tyr Phe Cys Ala Ala Glu Ala Gly Asn His Arg Gly Ser  
 115 120 125

Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln Leu Thr Val Trp  
 130 135 140

45 Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro  
 145 150 155 160

50 Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln  
 165 170 175

Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys  
 180 185 190  
 5 Cys Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile  
 195 200 205  
 10 Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu  
 210 215 220  
 15 Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu  
 225 230 235 240  
 20 Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu  
 245 250 255  
 Leu Val Ile Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn  
 260 265 270  
 25 Leu Leu Met Thr Leu Arg Leu Trp Ser Ser  
 275 280  
 30 <210> 58  
 <211> 307  
 <212> PRT  
 <213> Secuencia artificial  
 35 <220>  
 <223> Sintético  
 <400> 58  
 40 Met Gly Ser Arg Leu Leu Cys Trp Val Leu Leu Cys Leu Leu Gly Ala  
 1 5 10 15  
 45 Gly Pro Val Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys  
 20 25 30  
 Thr Arg Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His  
 35 40 45  
 50 Arg Ser Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe

|    | 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 5  | Leu | Phe | Glu | Tyr | Phe | Ser | Glu | Thr | Gln | Arg | Asn | Lys | Gly | Asn | Phe | Pro |  |
|    | 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| 10 | Gly | Arg | Phe | Ser | Gly | Arg | Gln | Phe | Ser | Asn | Ser | Arg | Ser | Glu | Met | Asn |  |
|    |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| 15 | Val | Ser | Thr | Leu | Glu | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser |  |
|    |     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| 20 | Ser | Leu | Ala | Ala | Gly | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly |  |
|    |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| 25 | Thr | Arg | Leu | Thr | Val | Leu | Glu | Asp | Leu | Arg | Asn | Val | Thr | Pro | Pro | Lys |  |
|    |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| 30 | Val | Ser | Leu | Phe | Glu | Pro | Ser | Lys | Ala | Glu | Ile | Ala | Asn | Lys | Gln | Lys |  |
|    | 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| 35 | Ala | Thr | Leu | Val | Cys | Leu | Ala | Arg | Gly | Phe | Phe | Pro | Asp | His | Val | Glu |  |
|    |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 40 | Leu | Ser | Trp | Trp | Val | Asn | Gly | Lys | Glu | Val | His | Ser | Gly | Val | Cys | Thr |  |
|    |     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| 45 | Asp | Pro | Gln | Ala | Tyr | Lys | Glu | Ser | Asn | Tyr | Ser | Tyr | Cys | Leu | Ser | Ser |  |
|    |     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| 50 | Arg | Leu | Arg | Val | Ser | Ala | Thr | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe |  |
|    |     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 55 | Arg | Cys | Gln | Val | Gln | Phe | His | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro |  |
|    | 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| 60 | Glu | Gly | Ser | Pro | Lys | Pro | Val | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp |  |
|    |     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| 65 | Gly | Arg | Ala | Asp | Cys | Gly | Ile | Thr | Ser | Ala | Ser | Tyr | Gln | Gln | Gly | Val |  |

|    | 260                                                                            | 265 | 270 |
|----|--------------------------------------------------------------------------------|-----|-----|
| 5  | Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu<br>275 280 285 |     |     |
| 10 | Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg<br>290 295 300 |     |     |
| 15 | Lys Asn Ser<br>305                                                             |     |     |
| 20 | <210> 59<br><211> 124<br><212> PRT<br><213> Homo sapiens<br><br><400> 59       |     |     |
| 25 | Gln Gln Lys Glu Lys Ser Asp Gln Gln Gln Val Lys Gln Ser Pro Gln<br>1 5 10 15   |     |     |
| 30 | Ser Leu Ile Val Gln Lys Gly Gly Ile Ser Ile Ile Asn Cys Ala Tyr<br>20 25 30    |     |     |
| 35 | Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr Gln Gln Phe Pro Gly<br>35 40 45    |     |     |
| 40 | Lys Gly Pro Ala Leu Leu Ile Ala Ile Arg Pro Asp Val Ser Glu Lys<br>50 55 60    |     |     |
| 45 | Lys Glu Gly Arg Phe Thr Ile Ser Phe Asn Lys Ser Ala Lys Gln Phe<br>65 70 75 80 |     |     |
| 50 | Ser Leu His Ile Met Asp Ser Gln Pro Gly Asp Ser Ala Thr Tyr Phe<br>85 90 95    |     |     |
|    | Cys Ala Ala Glu Ala Gly Asn His Arg Gly Ser Thr Leu Gly Arg Leu<br>100 105 110 |     |     |
|    | Tyr Phe Gly Arg Gly Thr Gln Leu Thr Val Trp Pro<br>115 120                     |     |     |

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 15 Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His Arg Ser Val Ser Trp  
 20 25 30  
  
 Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe Leu Phe Glu Tyr Phe  
 35 40 45  
 20  
 Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro Gly Arg Phe Ser Gly  
 50 55 60  
 25  
 Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn Val Ser Thr Leu Glu  
 65 70 75 80  
 30 Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Leu Ala Ala Gly  
 85 90 95  
 35 Gly Tyr Phe Asn Glu Gln Phe Phe Gly Pro Gly Thr Arg Leu Thr Val  
 100 105 110  
  
 Leu  
 40  
  
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 <220>  
 <223> Sintético  
  
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 <220>  
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<222> (172)..(172)
<223> Xaa es Thr o Cys

<220>
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  <222> (236)..(236)
  <223> Xaa es Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, o Trp

<220>
10 <221> CHARACTERISTICAS_MISC
   <222> (238)..(238)
   <223> Xaa es Met, Ala, Val, Leu, Ile, Pro, Phe, o Trp

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   <222> (239)..(239)
   <223> Xaa es Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, o Trp

<400> 61
20
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  1          5          10          15

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

30  Glu Asn Thr Ala Phe Asp Tyr Phe Pro Trp Tyr Gln Gln Phe Pro Gly
    35          40          45

    Lys Gly Pro Ala Leu Leu Ile Ala Ile Arg Pro Asp Val Ser Glu Lys
    50          55          60

35
    Lys Glu Gly Arg Phe Thr Ile Ser Phe Asn Lys Ser Ala Lys Gln Phe
    65          70          75          80

40
    Ser Leu His Ile Met Asp Ser Gln Pro Gly Asp Ser Ala Thr Tyr Phe
    85          90          95

45  Cys Ala Ala Glu Ala Gly Asn His Arg Gly Ser Thr Leu Gly Arg Leu
    100          105          110

50  Tyr Phe Gly Arg Gly Thr Gln Leu Thr Val Trp Pro Asn Ile Gln Asn
    115          120          125

```

[illegible]

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Gly | Val | Thr | Gln | Thr | Pro | Arg | Tyr | Leu | Ile | Lys | Thr | Arg | Gly | Gln | Gln |  |
|    | 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| 5  | Val | Thr | Leu | Ser | Cys | Ser | Pro | Ile | Ser | Gly | His | Arg | Ser | Val | Ser | Trp |  |
|    |     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| 10 | Tyr | Gln | Gln | Thr | Pro | Gly | Gln | Gly | Leu | Gln | Phe | Leu | Phe | Glu | Tyr | Phe |  |
|    |     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| 15 | Ser | Glu | Thr | Gln | Arg | Asn | Lys | Gly | Asn | Phe | Pro | Gly | Arg | Phe | Ser | Gly |  |
|    |     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| 20 | Arg | Gln | Phe | Ser | Asn | Ser | Arg | Ser | Glu | Met | Asn | Val | Ser | Thr | Leu | Glu |  |
|    | 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| 25 | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser | Ser | Leu | Ala | Ala | Gly |  |
|    |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| 30 | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly | Thr | Arg | Leu | Thr | Val |  |
|    |     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| 35 | Leu | Glu | Asp | Leu | Arg | Asn | Val | Thr | Pro | Pro | Lys | Val | Ser | Leu | Phe | Glu |  |
|    |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| 40 | Pro | Ser | Lys | Ala | Glu | Ile | Ala | Asn | Lys | Gln | Lys | Ala | Thr | Leu | Val | Cys |  |
|    |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| 45 | Leu | Ala | Arg | Gly | Phe | Phe | Pro | Asp | His | Val | Glu | Leu | Ser | Trp | Trp | Val |  |
|    | 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| 50 | Asn | Gly | Lys | Glu | Val | His | Ser | Gly | Val | Xaa | Thr | Asp | Pro | Gln | Ala | Tyr |  |
|    |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| 55 | Lys | Glu | Ser | Asn | Tyr | Ser | Tyr | Cys | Leu | Ser | Ser | Arg | Leu | Arg | Val | Ser |  |
|    |     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| 60 | Ala | Thr | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe | Arg | Cys | Gln | Val | Gln |  |
|    |     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|    | Phe   | His                  | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro | Glu | Gly | Ser | Pro | Lys |
|    | 210   |                      |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| 5  | Pro   | Val                  | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp | Gly | Arg | Ala | Asp | Cys |
|    | 225   |                      |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| 10 | Gly   | Ile                  | Thr | Ser | Ala | Ser | Tyr | Gln | Gln | Gly | Val | Leu | Ser | Ala | Thr | Ile |
|    |       |                      |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| 15 | Leu   | Tyr                  | Glu | Ile | Leu | Leu | Gly | Lys | Ala | Thr | Leu | Tyr | Ala | Val | Leu | Val |
|    |       |                      |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| 20 | Ser   | Thr                  | Leu | Val | Val | Met | Ala | Met | Val | Lys | Arg | Lys | Asn | Ser |     |     |
|    |       |                      | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
|    | <210> | 63                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <211> | 261                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <212> | PRT                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <213> | Secuencia artificial |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 25 | <220> |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | <223> | Sintético            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30 | <400> | 63                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | Gln   | Gln                  | Lys | Glu | Lys | Ser | Asp | Gln | Gln | Gln | Val | Lys | Gln | Ser | Pro | Gln |
|    | 1     |                      |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| 35 | Ser   | Leu                  | Ile | Val | Gln | Lys | Gly | Gly | Ile | Ser | Ile | Ile | Asn | Cys | Ala | Tyr |
|    |       |                      |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| 40 | Glu   | Asn                  | Thr | Ala | Phe | Asp | Tyr | Phe | Pro | Trp | Tyr | Gln | Gln | Phe | Pro | Gly |
|    |       |                      | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| 45 | Lys   | Gly                  | Pro | Ala | Leu | Leu | Ile | Ala | Ile | Arg | Pro | Asp | Val | Ser | Glu | Lys |
|    | 50    |                      |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| 50 | Lys   | Glu                  | Gly | Arg | Phe | Thr | Ile | Ser | Phe | Asn | Lys | Ser | Ala | Lys | Gln | Phe |
|    | 65    |                      |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
|    | Ser   | Leu                  | His | Ile | Met | Asp | Ser | Gln | Pro | Gly | Asp | Ser | Ala | Thr | Tyr | Phe |
|    |       |                      |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

5 Cys Ala Ala Glu Ala Gly Asn His Arg Gly Ser Thr Leu Gly Arg Leu  
 100 105 110  
 Tyr Phe Gly Arg Gly Thr Gln Leu Thr Val Trp Pro Asn Ile Gln Asn  
 115 120 125  
 10 Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser  
 130 135 140  
 15 Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn Val Pro Lys  
 145 150 155 160  
 20 Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Thr Val Leu Asp Met  
 165 170 175  
 25 Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln  
 180 185 190  
 Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr  
 195 200 205  
 30 Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe  
 210 215 220  
 35 Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Ser Val Met Gly Leu  
 225 230 235 240  
 40 Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu  
 245 250 255  
 45 Arg Leu Trp Ser Ser  
 260  
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 50 <213> Secuencia artificial  
 <220>

&lt;223&gt; Sintético

&lt;400&gt; 64

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5  | Gly | Val | Thr | Gln | Thr | Pro | Arg | Tyr | Leu | Ile | Lys | Thr | Arg | Gly | Gln | Gln | 1   | 5   | 10  | 15  |
| 10 | Val | Thr | Leu | Ser | Cys | Ser | Pro | Ile | Ser | Gly | His | Arg | Ser | Val | Ser | Trp | 20  | 25  | 30  |     |
| 15 | Tyr | Gln | Gln | Thr | Pro | Gly | Gln | Gly | Leu | Gln | Phe | Leu | Phe | Glu | Tyr | Phe | 35  | 40  | 45  |     |
| 20 | Ser | Glu | Thr | Gln | Arg | Asn | Lys | Gly | Asn | Phe | Pro | Gly | Arg | Phe | Ser | Gly | 50  | 55  | 60  |     |
| 25 | Arg | Gln | Phe | Ser | Asn | Ser | Arg | Ser | Glu | Met | Asn | Val | Ser | Thr | Leu | Glu | 65  | 70  | 75  | 80  |
| 30 | Leu | Gly | Asp | Ser | Ala | Leu | Tyr | Leu | Cys | Ala | Ser | Ser | Leu | Ala | Ala | Gly | 85  | 90  | 95  |     |
| 35 | Gly | Tyr | Phe | Asn | Glu | Gln | Phe | Phe | Gly | Pro | Gly | Thr | Arg | Leu | Thr | Val | 100 | 105 | 110 |     |
| 40 | Leu | Glu | Asp | Leu | Arg | Asn | Val | Thr | Pro | Pro | Lys | Val | Ser | Leu | Phe | Glu | 115 | 120 | 125 |     |
| 45 | Pro | Ser | Lys | Ala | Glu | Ile | Ala | Asn | Lys | Gln | Lys | Ala | Thr | Leu | Val | Cys | 130 | 135 | 140 |     |
| 50 | Leu | Ala | Arg | Gly | Phe | Phe | Pro | Asp | His | Val | Glu | Leu | Ser | Trp | Trp | Val | 145 | 150 | 155 | 160 |
|    | Asn | Gly | Lys | Glu | Val | His | Ser | Gly | Val | Ser | Thr | Asp | Pro | Gln | Ala | Tyr | 165 | 170 | 175 |     |
|    | Lys | Glu | Ser | Asn | Tyr | Ser | Tyr | Cys | Leu | Ser | Ser | Arg | Leu | Arg | Val | Ser | 180 | 185 | 190 |     |

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Ala   | Thr                  | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe | Arg | Cys | Gln | Val | Gln |  |
|    |       |                      | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| 5  | Phe   | His                  | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro | Glu | Gly | Ser | Pro | Lys |  |
|    |       | 210                  |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 10 | Pro   | Val                  | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp | Gly | Arg | Ala | Asp | Cys |  |
|    | 225   |                      |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| 15 | Gly   | Ile                  | Thr | Ser | Ala | Ser | Tyr | Gln | Gln | Gly | Val | Leu | Ser | Ala | Thr | Ile |  |
|    |       |                      |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| 20 | Leu   | Tyr                  | Glu | Ile | Leu | Leu | Gly | Lys | Ala | Thr | Leu | Tyr | Ala | Val | Leu | Val |  |
|    |       |                      |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| 25 | Ser   | Thr                  | Leu | Val | Val | Met | Ala | Met | Val | Lys | Arg | Lys | Asn | Ser |     |     |  |
|    |       |                      | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| 30 | <210> | 65                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <211> | 261                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <212> | PRT                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <213> | Secuencia artificial |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 35 | <220> |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <223> | Sintético            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <400> | 65                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 40 | Gln   | Gln                  | Lys | Glu | Lys | Ser | Asp | Gln | Gln | Gln | Val | Lys | Gln | Ser | Pro | Gln |  |
|    | 1     |                      |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| 45 | Ser   | Leu                  | Ile | Val | Gln | Lys | Gly | Gly | Ile | Ser | Ile | Ile | Asn | Cys | Ala | Tyr |  |
|    |       |                      |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| 50 | Glu   | Asn                  | Thr | Ala | Phe | Asp | Tyr | Phe | Pro | Trp | Tyr | Gln | Gln | Phe | Pro | Gly |  |
|    |       |                      | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| 55 | Lys   | Gly                  | Pro | Ala | Leu | Leu | Ile | Ala | Ile | Arg | Pro | Asp | Val | Ser | Glu | Lys |  |
|    |       | 50                   |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| 60 | Lys   | Glu                  | Gly | Arg | Phe | Thr | Ile | Ser | Phe | Asn | Lys | Ser | Ala | Lys | Gln | Phe |  |
|    | 65    |                      |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |

[illegible]

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 <213> Secuencia artificial  
  
 <220>  
 5 <223> Sintético  
  
 <400> 66  
  
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 Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His Arg Ser Val Ser Trp  
 15 20 25 30  
  
 Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe Leu Phe Glu Tyr Phe  
 20 35 40 45  
  
 Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro Gly Arg Phe Ser Gly  
 50 55 60  
  
 Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn Val Ser Thr Leu Glu  
 25 65 70 75 80  
  
 Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Leu Ala Ala Gly  
 30 85 90 95  
  
 Gly Tyr Phe Asn Glu Gln Phe Phe Gly Pro Gly Thr Arg Leu Thr Val  
 35 100 105 110  
  
 Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu  
 115 120 125  
  
 Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys  
 40 130 135 140  
  
 Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp Val  
 45 145 150 155 160  
  
 Asn Gly Lys Glu Val His Ser Gly Val Cys Thr Asp Pro Gln Ala Tyr  
 50 165 170 175

|    |       |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----|-------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|    | Lys   | Glu                  | Ser | Asn | Tyr | Ser | Tyr | Cys | Leu | Ser | Ser | Arg | Leu | Arg | Val | Ser |  |
|    |       |                      |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| 5  | Ala   | Thr                  | Phe | Trp | His | Asn | Pro | Arg | Asn | His | Phe | Arg | Cys | Gln | Val | Gln |  |
|    |       |                      | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| 10 | Phe   | His                  | Gly | Leu | Ser | Glu | Glu | Asp | Lys | Trp | Pro | Glu | Gly | Ser | Pro | Lys |  |
|    |       | 210                  |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| 15 | Pro   | Val                  | Thr | Gln | Asn | Ile | Ser | Ala | Glu | Ala | Trp | Gly | Arg | Ala | Asp | Cys |  |
|    |       | 225                  |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| 20 | Gly   | Ile                  | Thr | Ser | Ala | Ser | Tyr | Gln | Gln | Gly | Val | Leu | Ser | Ala | Thr | Ile |  |
|    |       |                      |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| 25 | Leu   | Tyr                  | Glu | Ile | Leu | Leu | Gly | Lys | Ala | Thr | Leu | Tyr | Ala | Val | Leu | Val |  |
|    |       |                      |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| 30 | Ser   | Thr                  | Leu | Val | Val | Met | Ala | Met | Val | Lys | Arg | Lys | Asn | Ser |     |     |  |
|    |       |                      | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
|    | <210> | 67                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <211> | 616                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <212> | PRT                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <213> | Secuencia artificial |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 35 | <220> |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <223> | Sintético            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|    | <400> | 67                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 40 | Met   | Ala                  | Lys | Ile | Leu | Gly | Ala | Ser | Phe | Leu | Val | Leu | Trp | Leu | Gln | Leu |  |
|    | 1     |                      |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| 45 | Cys   | Trp                  | Val | Ser | Gly | Gln | Gln | Lys | Glu | Lys | Ser | Asp | Gln | Gln | Gln | Val |  |
|    |       |                      |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| 50 | Lys   | Gln                  | Ser | Pro | Gln | Ser | Leu | Ile | Val | Gln | Lys | Gly | Gly | Ile | Ser | Ile |  |
|    |       |                      | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |
|    | Ile   | Asn                  | Cys | Ala | Tyr | Glu | Asn | Thr | Ala | Phe | Asp | Tyr | Phe | Pro | Trp | Tyr |  |
|    |       | 50                   |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |

|    |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
|----|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 5  | Gln<br>65  | Gln        | Phe        | Pro        | Gly<br>70  | Lys        | Gly        | Pro        | Ala        | Leu<br>75  | Leu        | Ile        | Ala        | Ile        | Arg        | Pro<br>80  |
| 10 | Asp        | Val        | Ser        | Glu        | Lys<br>85  | Lys        | Glu        | Gly        | Arg        | Phe<br>90  | Thr        | Ile        | Ser        | Phe        | Asn<br>95  | Lys        |
| 15 | Ser        | Ala        | Lys        | Gln<br>100 | Phe        | Ser        | Leu        | His        | Ile<br>105 | Met        | Asp        | Ser        | Gln        | Pro<br>110 | Gly        | Asp        |
| 20 | Ser        | Ala        | Thr<br>115 | Tyr        | Phe        | Cys        | Ala        | Ala<br>120 | Glu        | Ala        | Gly        | Asn        | His<br>125 | Arg        | Gly        | Ser        |
| 25 | Thr        | Leu<br>130 | Gly        | Arg        | Leu        | Tyr        | Phe<br>135 | Gly        | Arg        | Gly        | Thr        | Gln<br>140 | Leu        | Thr        | Val        | Trp        |
| 30 | Pro<br>145 | Asn        | Ile        | Gln        | Asn        | Pro<br>150 | Glu        | Pro        | Ala        | Val        | Tyr<br>155 | Gln        | Leu        | Lys        | Asp        | Pro<br>160 |
| 35 | Arg        | Ser        | Gln        | Asp        | Ser<br>165 | Thr        | Leu        | Cys        | Leu        | Phe<br>170 | Thr        | Asp        | Phe        | Asp        | Ser<br>175 | Gln        |
| 40 | Ile        | Asn        | Val        | Pro<br>180 | Lys        | Thr        | Met        | Glu        | Ser<br>185 | Gly        | Thr        | Phe        | Ile        | Thr<br>190 | Asp        | Lys        |
| 45 | Cys        | Val        | Leu<br>195 | Asp        | Met        | Lys        | Ala        | Met<br>200 | Asp        | Ser        | Lys        | Ser        | Asn<br>205 | Gly        | Ala        | Ile        |
| 50 | Ala        | Trp<br>210 | Ser        | Asn        | Gln        | Thr        | Ser<br>215 | Phe        | Thr        | Cys        | Gln        | Asp<br>220 | Ile        | Phe        | Lys        | Glu        |
|    | Thr<br>225 | Asn        | Ala        | Thr        | Tyr        | Pro<br>230 | Ser        | Ser        | Asp        | Val        | Pro<br>235 | Cys        | Asp        | Ala        | Thr        | Leu<br>240 |
|    | Thr        | Glu        | Lys        | Ser        | Phe<br>245 | Glu        | Thr        | Asp        | Met        | Asn<br>250 | Leu        | Asn        | Phe        | Gln        | Asn<br>255 | Leu        |
|    | Leu        | Val        | Ile        | Val<br>260 | Leu        | Arg        | Ile        | Leu        | Leu<br>265 | Leu        | Lys        | Val        | Ala        | Gly<br>270 | Phe        | Asn        |

|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5  | Leu | Leu | Met | Thr | Leu | Arg | Leu | Trp | Ser | Ser | Arg | Ala | Lys | Arg | Ser | Gly | 275 | 280 | 285 |
| 10 | Ser | Gly | Ala | Thr | Asn | Phe | Ser | Leu | Leu | Lys | Gln | Ala | Gly | Asp | Val | Glu | 290 | 295 | 300 |
| 15 | Glu | Asn | Pro | Gly | Pro | Met | Gly | Ser | Arg | Leu | Leu | Cys | Trp | Val | Leu | Leu | 305 | 310 | 315 |
| 20 | Cys | Leu | Leu | Gly | Ala | Gly | Pro | Val | Lys | Ala | Gly | Val | Thr | Gln | Thr | Pro | 325 | 330 | 335 |
| 25 | Arg | Tyr | Leu | Ile | Lys | Thr | Arg | Gly | Gln | Gln | Val | Thr | Leu | Ser | Cys | Ser | 340 | 345 | 350 |
| 30 | Pro | Ile | Ser | Gly | His | Arg | Ser | Val | Ser | Trp | Tyr | Gln | Gln | Thr | Pro | Gly | 355 | 360 | 365 |
| 35 | Gln | Gly | Leu | Gln | Phe | Leu | Phe | Glu | Tyr | Phe | Ser | Glu | Thr | Gln | Arg | Asn | 370 | 375 | 380 |
| 40 | Lys | Gly | Asn | Phe | Pro | Gly | Arg | Phe | Ser | Gly | Arg | Gln | Phe | Ser | Asn | Ser | 385 | 390 | 395 |
| 45 | Arg | Ser | Glu | Met | Asn | Val | Ser | Thr | Leu | Glu | Leu | Gly | Asp | Ser | Ala | Leu | 405 | 410 | 415 |
| 50 | Tyr | Leu | Cys | Ala | Ser | Ser | Leu | Ala | Ala | Gly | Gly | Tyr | Phe | Asn | Glu | Gln | 420 | 425 | 430 |
|    | Phe | Phe | Gly | Pro | Gly | Thr | Arg | Leu | Thr | Val | Leu | Glu | Asp | Leu | Arg | Asn | 435 | 440 | 445 |
|    | Val | Thr | Pro | Pro | Lys | Val | Ser | Leu | Phe | Glu | Pro | Ser | Lys | Ala | Glu | Ile | 450 | 455 | 460 |
|    | Ala | Asn | Lys | Gln | Lys | Ala | Thr | Leu | Val | Cys | Leu | Ala | Arg | Gly | Phe | Phe | 465 | 470 | 475 |
|    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 480 |     |     |

