

# SEQUENCE LISTING

<110> Synthon Biopharmaceuticals B.V.  
 VERHEIJDEN Gijsbertus Franciscus Maria  
 ROUWENDAL Gerard Johan Adolph  
 ARENDS Roland Jan  
 BERG, VAN DEN Timo Kars  
 MATLUNG Hanke Lottie  
 SZILAGYI Katarina

<120> Anti SIRPalpha antibodies with a LALA mutation

<130> P1703PC00/PB-078

<160> 29

<170> BiSSAP 1.3

<210> 1

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO:1 (HC VR 1)

<400> 1

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ser | Val | Glu | Glu | Ser | Gly | Gly | Arg | Leu | Val | Thr | Pro | Gly | Thr | Pro |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Thr | Leu | Thr | Cys | Thr | Val | Ser | Gly | Ile | Asp | Leu | Ser | Ser | Tyr | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Ser | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Ile | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Ile | Ser | Ser | Gly | Gly | Ile | Thr | Tyr | Tyr | Ala | Ser | Trp | Ala | Lys | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Phe | Thr | Ile | Ser | Lys | Thr | Ser | Thr | Thr | Val | Asp | Leu | Lys | Ile | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Pro | Thr | Thr | Glu | Asp | Thr | Ala | Thr | Tyr | Phe | Cys | Ala | Arg | Ser | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Trp | Ala | Ala | Ser | Asn | Tyr | Tyr | Met | Ala | Leu | Trp | Gly | Pro | Gly | Thr | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Thr | Val | Ser | Ser |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |

<210> 2

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO:2 (LC VR 1)

<400> 2

Ala Ile Lys Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Gly | Thr | Val | Ser | Ile | Asn | Cys | Gln | Ala | Ser | Glu | Asp | Ile | Glu | Ser | Tyr |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Leu | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Pro | Pro | Lys | Leu | Leu | Ile |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Tyr | Arg | Ala | Ser | Thr | Leu | Ala | Ser | Gly | Val | Ser | Ser | Arg | Phe | Lys | Gly |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Ser | Gly | Ser | Gly | Thr | Gln | Phe | Thr | Leu | Thr | Ile | Ser | Asp | Leu | Glu | Ser |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Ala | Asp | Ala | Ala | Thr | Tyr | Tyr | Cys | Leu | Gly | Asp | Tyr | Tyr | Ser | Ser | Ser |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Gly | Asp | Thr | Gly | Ala | Phe | Gly | Gly | Gly | Thr | Glu | Val | Val | Val | Lys |     |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |

<210> 3  
 <211> 116  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:3 (HC VR 2)

|         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Gln     | Ser | Val | Glu | Glu | Ser | Gly | Gly | Arg | Leu | Val | Thr | Pro | Gly | Thr | Pro |  |
| 1       |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |
| Leu     | Thr | Leu | Thr | Cys | Thr | Val | Ser | Gly | Phe | Ser | Leu | Ser | Asn | Tyr | Ala |  |
|         |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Met     | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Ile | Gly |  |
|         |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |
| Ile     | Ile | Tyr | Thr | Gly | Gly | Ala | Thr | Ser | Tyr | Ala | Thr | Trp | Ala | Lys | Gly |  |
|         | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Gln     | Phe | Thr | Ile | Ser | Lys | Thr | Ser | Thr | Thr | Val | Asp | Leu | Lys | Ile | Thr |  |
| 65      |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Ser     | Pro | Thr | Thr | Glu | Asp | Thr | Ala | Thr | Tyr | Phe | Cys | Ala | Arg | Gly | Asp |  |
|         |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |  |
| Arg     | Asp | Gly | Tyr | Ala | Tyr | Phe | Asn | Ile | Trp | Gly | Pro | Gly | Thr | Leu | Val |  |
|         |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Thr     | Val | Ser | Leu |     |     |     |     |     |     |     |     |     |     |     |     |  |
|         |     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 4  
 <211> 110  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:4 (LC VR 2)

|         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Gln     | Ile | Val | Met | Thr | Gln | Thr | Pro | Phe | Ser | Val | Ser | Ala | Val | Val | Gly |  |
| 1       |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |
| Gly     | Thr | Val | Thr | Ile | Lys | Cys | Gln | Ala | Ser | His | Asn | Ile | Gly | Ser | Trp |  |
|         |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Leu     | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Arg | Pro | Lys | Leu | Leu | Ile |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Tyr | Asp | Ala | Ser | Thr | Leu | Ala | Ser | Gly | Val | Ser | Ser | Arg | Phe | Lys | Gly |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ser | Gly | Ser | Gly | Thr | Glu | Phe | Thr | Leu | Thr | Ile | Ser | Gly | Val | Glu | Ser |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala | Asp | Ala | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Gly | Tyr | Gly | Ile | Ser | Tyr |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Val | His | Asn | Val | Phe | Gly | Gly | Gly | Thr | Glu | Val | Val | Val | Lys |     |     |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |

<210> 5  
 <211> 116  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:5 (HC VR 3)

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Gln | Ser | Val | Glu | Glu | Ser | Gly | Gly | Arg | Leu | Val | Thr | Pro | Gly | Thr | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Leu | Thr | Leu | Ala | Cys | Thr | Val | Ser | Gly | Phe | Ser | Leu | Ile | Ser | Tyr | Tyr |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ile | Ser | Trp | Val | Arg | Gln | Ala | Pro | Glu | Lys | Gly | Leu | Glu | Tyr | Ile | Gly |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Ile | Ile | Asn | Ile | Gly | Gly | Gly | Ala | Ser | Tyr | Ala | Ser | Trp | Ala | Lys | Gly |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Arg | Phe | Thr | Ile | Ser | Lys | Thr | Ser | Thr | Thr | Val | Asp | Leu | Lys | Ile | Thr |  |  |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Ser | Pro | Thr | Pro | Glu | Asp | Thr | Ala | Thr | Tyr | Phe | Cys | Ala | Met | Ser | Tyr |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Gly | Met | Asp | Thr | Gly | Ala | Phe | Asn | Ile | Trp | Gly | Pro | Gly | Thr | Leu | Val |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Thr | Val | Ser | Leu |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 6  
 <211> 110  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:6 (LC VR 3)

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Ala | Gln | Val | Leu | Thr | Gln | Thr | Pro | Ala | Ser | Val | Ser | Ala | Ala | Val | Gly |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Gly | Thr | Val | Thr | Ile | Ser | Cys | Gln | Ser | Ser | Glu | Ser | Val | Tyr | Lys | Asn |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Asn | Phe | Leu | Ser | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Pro | Pro | Lys | Leu |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Leu | Ile | Tyr | Gly | Ala | Ser | Thr | Leu | Ala | Ser | Gly | Val | Pro | Ser | Arg | Phe |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Lys | Gly | Ser | Gly | Ser | Gly | Thr | Gln | Phe | Thr | Leu | Thr | Ile | Ser | Asp | Leu |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Glu | Ser | Asp | Asp | Ala | Ala | Thr | Tyr | Phe | Cys | Gln | Gly | Gly | Tyr | Arg | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Ile | Tyr | Pro | Phe | Gly | Gly | Gly | Thr | Glu | Val | Val | Val | Lys |     |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

<210> 7  
 <211> 116  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:7 (HC VR 4)

|         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Gln     | Ser | Val | Glu | Glu | Ser | Gly | Gly | Arg | Leu | Gly | Thr | Pro | Gly | Thr | Pro |
| 1       |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu     | Thr | Leu | Thr | Cys | Thr | Val | Ser | Gly | Phe | Ser | Leu | Ser | Ser | Tyr | Val |
|         |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met     | Gly | Trp | Phe | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Tyr | Ile | Gly |
|         |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile     | Ile | Ser | Ser | Ser | Gly | Ser | Pro | Tyr | Tyr | Ala | Ser | Trp | Val | Asn | Gly |
|         | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg     | Phe | Thr | Ile | Ser | Lys | Thr | Ser | Thr | Thr | Met | Asp | Leu | Lys | Met | Asn |
| 65      |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser     | Pro | Thr | Thr | Glu | Asp | Thr | Ala | Thr | Tyr | Phe | Cys | Ala | Arg | Val | Gly |
|         |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro     | Leu | Gly | Val | Asp | Tyr | Phe | Asn | Ile | Trp | Gly | Pro | Gly | Thr | Leu | Val |
|         |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr     | Val | Ser | Leu |     |     |     |     |     |     |     |     |     |     |     |     |
|         |     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 8  
 <211> 109  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:8 (LC VR 4)

|         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Asp     | Ile | Val | Met | Thr | Gln | Thr | Pro | Ser | Ser | Val | Glu | Ala | Ala | Val | Gly |
| 1       |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly     | Thr | Val | Thr | Ile | Lys | Cys | Gln | Ala | Gly | Gln | Ser | Ile | Asn | Ser | Tyr |
|         |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu     | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Arg | Pro | Lys | Leu | Leu | Ile |
|         |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr     | Tyr | Ala | Ser | Thr | Leu | Glu | Ser | Gly | Val | Pro | Ser | Arg | Phe | Lys | Gly |
|         | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser     | Gly | Ser | Gly | Thr | Asp | Tyr | Thr | Leu | Thr | Ile | Ser | Asp | Leu | Glu | Ser |
| 65      |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala     | Asp | Ala | Ala | Thr | Tyr | Tyr | Cys | Gln | Ser | Trp | His | Tyr | Ile | Ser | Arg |
|         |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ser     | Tyr | Ala | Phe | Gly | Gly | Gly | Thr | Glu | Val | Val | Val | Lys |     |     |     |

100

105

&lt;210&gt; 9

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; SEQ ID NO:9 (HC VR 5)

&lt;400&gt; 9

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ser | Val | Glu | Glu | Ser | Gly | Gly | Arg | Leu | Val | Thr | Pro | Gly | Thr | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Thr | Leu | Thr | Cys | Thr | Val | Ser | Gly | Phe | Ser | Leu | Ser | Ser | Tyr | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Gly | Trp | Phe | Arg | Gln | Ala | Ala | Gly | Lys | Gly | Leu | Glu | Tyr | Ile | Gly |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Tyr | Ile | Asn | Ala | Asp | Gly | Ser | Pro | Tyr | Tyr | Ala | Thr | Trp | Val | Asn | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Phe | Thr | Ile | Ser | Lys | Thr | Pro | Thr | Thr | Met | Asp | Leu | Lys | Ile | Asn |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Pro | Thr | Thr | Glu | Asp | Thr | Ala | Thr | Tyr | Phe | Cys | Ala | Arg | Val | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | Leu | Gly | Val | Asp | Tyr | Phe | Asn | Ile | Trp | Gly | Pro | Gly | Thr | Leu | Val |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Thr | Val | Ser | Leu |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 10

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; SEQ ID NO:10 (LC VR 5)

&lt;400&gt; 10

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ile | Val | Met | Thr | Gln | Thr | Pro | Ala | Ser | Val | Glu | Ala | Ala | Val | Gly |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Thr | Val | Thr | Ile | Lys | Cys | Gln | Ala | Ser | Gln | Ser | Ile | Asn | Arg | Tyr |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Leu | Thr | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Arg | Pro | Lys | Leu | Leu | Ile |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Tyr | Tyr | Ala | Ser | Thr | Leu | Glu | Ser | Gly | Val | Pro | Ser | Arg | Phe | Glu | Gly |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Ser | Gly | Ser | Gly | Thr | Asp | Tyr | Thr | Leu | Thr | Ile | Ser | Asp | Leu | Glu | Ser |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Asp | Ala | Ala | Thr | Tyr | Tyr | Cys | Gln | Ser | Tyr | Tyr | Tyr | Ile | Ser | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Thr | Tyr | Ala | Phe | Gly | Gly | Gly | Thr | Glu | Val | Val | Val | Lys |     |     |     |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     |     |     |     |

&lt;210&gt; 11

&lt;211&gt; 116

<212> PRT  
<213> Artificial Sequence

<220>  
<223> SEQ ID NO:11 (HC VR 6)

<400> 11  
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro  
1 5 10 15  
Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Thr  
20 25 30  
Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly  
35 40 45  
Ile Ile Tyr Ala Gly Gly Ser Thr Ala Tyr Ala Ser Trp Ala Lys Gly  
50 55 60  
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr  
65 70 75 80  
Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Ser  
85 90 95  
Ser Asp Gly Tyr Asp Tyr Phe Asn Ile Trp Gly Pro Gly Thr Leu Val  
100 105 110  
Thr Val Ser Leu  
115

<210> 12  
<211> 111  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> SEQ ID NO:12 (LC VR 6)

<400> 12  
Gly Val Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly  
1 5 10 15  
Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Gly Ser Trp  
20 25 30  
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile  
35 40 45  
Tyr Gln Ala Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60  
Arg Gly Ser Gly Thr His Phe Thr Leu Thr Ile Ser Asp Val Gln Ser  
65 70 75 80  
Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Thr Val Thr Ala Ala Ser  
85 90 95  
Asn Val Asp Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys  
100 105 110

<210> 13  
<211> 115  
<212> PRT  
<213> Artificial Sequence

<220>

<223> SEQ ID NO:13 (HC VR 7)

<400> 13

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Ser | Val | Glu | Glu | Ser | Gly | Gly | Arg | Leu | Val | Thr | Pro | Gly | Thr | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Thr | Leu | Thr | Cys | Thr | Val | Ser | Gly | Phe | Ser | Leu | Ser | Ser | His | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Ser | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Tyr | Ile | Gly |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Ile | Gly | Thr | Gly | Val | Ile | Thr | Tyr | Phe | Ala | Ser | Trp | Ala | Lys | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Phe | Thr | Gly | Ser | Lys | Thr | Ser | Thr | Thr | Val | Asp | Leu | Lys | Ile | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Pro | Thr | Thr | Glu | Asp | Thr | Ala | Thr | Tyr | Phe | Cys | Ala | Arg | Gly | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Trp | Asn | Asp | Pro | Phe | Asp | Pro | Trp | Gly | Pro | Gly | Thr | Leu | Val | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Ser | Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 115 |

<210> 14

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO:14 (LC VR 7)

<400> 14

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Val | Met | Thr | Gln | Thr | Pro | Ala | Ser | Val | Ser | Ala | Ala | Val | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Thr | Val | Thr | Thr | Lys | Cys | Gln | Ala | Ser | Gln | Ser | Val | Tyr | Gly | Asn |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Asp | Leu | Ala | Trp | Tyr | Gln | His | Lys | Pro | Gly | Gln | Pro | Pro | Lys | Leu |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Ile | Tyr | Leu | Ala | Ser | Thr | Leu | Ala | Thr | Gly | Val | Pro | Ser | Arg | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Gly | Ser | Gly | Ser | Gly | Thr | Gln | Phe | Thr | Leu | Thr | Ile | Thr | Gly | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gln | Ser | Asp | Asp | Ala | Ala | Thr | Tyr | Tyr | Cys | Leu | Gly | Gly | Gly | Asp | Asp |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Ala | Asp | Asn | Val | Phe | Gly | Gly | Gly | Thr | Glu | Val | Val | Val | Lys |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

<210> 15

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO:15 (HC VR 8)

<400> 15

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro

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

<210> 16

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO:16 (LC VR 8)

<400> 16

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ile | Asp | Met | Thr | Gln | Thr | Pro | Ala | Ser | Val | Ser | Glu | Pro | Val | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gly | Thr | Val | Thr | Ile | Lys | Cys | Gln | Ala | Ser | Gln | Ser | Ile | Ser | Ser | Trp |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Leu | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Arg | Pro | Lys | Leu | Leu | Ile |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Tyr | Asp | Ala | Ser | Lys | Leu | Ala | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ser | Gly | Ser | Gly | Thr | Glu | Phe | Thr | Leu | Thr | Ile | Ser | Gly | Val | Gln | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asp | Asp | Ala | Ala | Ala | Tyr | Tyr | Cys | Gln | Gln | Gly | Tyr | Ala | Val | Ser | Tyr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Val | Glu | Asn | Ile | Phe | Gly | Gly | Gly | Thr | Glu | Val | Val | Val | Lys |     |     |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

<210> 17

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO:17 (HC VR 9)

<400> 17

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ser | Met | Glu | Glu | Ser | Gly | Gly | Arg | Leu | Val | Thr | Pro | Gly | Thr | Pro |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Thr | Leu | Thr | Cys | Thr | Ala | Ser | Gly | Phe | Ser | Leu | Ser | Asn | Tyr | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Ser | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Ile | Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |  |  |
| Ile | Ile | Tyr | Gly | Gly | Ser | Asp | Ile | Thr | Ala | Tyr | Ala | Ser | Trp | Ala | Lys |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Gly | Arg | Phe | Thr | Ile | Ser | Lys | Thr | Ser | Thr | Thr | Val | Asp | Leu | Thr | Ile |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Thr | Ser | Pro | Thr | Thr | Glu | Asp | Thr | Ala | Thr | Tyr | Phe | Cys | Ala | Lys | Ser |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Tyr | Thr | Asn | Gly | Met | Asp | Tyr | Tyr | Asn | Ile | Trp | Gly | Pro | Gly | Thr | Leu |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Val | Thr | Val | Ser | Leu |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 18  
 <211> 108  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:18 (LC VR 9)

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| <400> 18 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Ala      | Phe | Asp | Leu | Thr | Gln | Thr | Pro | Ser | Ser | Val | Glu | Ala | Pro | Val | Gly |  |  |
| 1        |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Gly      | Thr | Val | Ile | Ile | Lys | Cys | Gln | Ala | Ser | Gln | Ser | Ile | Ser | Ser | Tyr |  |  |
|          |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |
| Leu      | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Pro | Pro | Lys | Leu | Leu | Ile |  |  |
|          |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Tyr      | Ser | Ala | Ser | Thr | Leu | Ala | Ser | Gly | Val | Ser | Ser | Arg | Phe | Lys | Gly |  |  |
|          | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Ser      | Gly | Ser | Glu | Thr | Gln | Phe | Pro | Leu | Thr | Ile | Ser | Asp | Leu | Glu | Ser |  |  |
| 65       |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala      | Asp | Ala | Ala | Thr | Tyr | Tyr | Cys | Gln | Ser | Tyr | Tyr | Gly | Ser | Arg | Ser |  |  |
|          |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Asn      | Val | Phe | Gly | Gly | Gly | Thr | Glu | Val | Val | Val | Lys |     |     |     |     |  |  |
|          |     | 100 |     |     |     |     |     | 105 |     |     |     |     |     |     |     |  |  |

<210> 19  
 <211> 129  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:19 (HC VR 29AM4-5))

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| <400> 19 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Glu      | Val | Gln | Leu | Val | Glu | Ser | Gly | Gly | Gly | Leu | Val | Gln | Pro | Gly | Gly |  |  |
| 1        |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Ser      | Leu | Arg | Leu | Ser | Cys | Ala | Ala | Ser | Gly | Phe | Asn | Ile | Ser | Tyr | Tyr |  |  |
|          |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Phe      | Ile | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Val |  |  |
|          |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Ala      | Ser | Val | Tyr | Ser | Ser | Phe | Gly | Tyr | Thr | Tyr | Tyr | Ala | Asp | Ser | Val |  |  |
|          | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Lys      | Gly | Arg | Phe | Thr | Ile | Ser | Ala | Asp | Thr | Ser | Lys | Asn | Thr | Ala | Tyr |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Gln | Met | Asn | Ser | Leu | Arg | Ala | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Arg | Phe | Thr | Phe | Pro | Gly | Leu | Phe | Asp | Gly | Phe | Phe | Gly | Ala | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Gly | Ser | Leu | Asp | Tyr | Trp | Gly | Gln | Gly | Thr | Leu | Val | Thr | Val | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 20  
 <211> 110  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:20 (LC VR 29AM4-5)

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 20 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Asp      | Ile | Gln | Met | Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala | Ser | Val | Gly |
| 1        |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Asp      | Arg | Val | Thr | Ile | Thr | Cys | Arg | Ala | Ser | Gln | Ser | Val | Ser | Ser | Ala |
|          |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Val      | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile |
|          | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Tyr      | Ser | Ala | Ser | Ser | Leu | Tyr | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly |
|          | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ser      | Arg | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Ser | Leu | Gln | Pro |
| 65       |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Glu      | Asp | Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Ala | Val | Asn | Trp | Val | Gly |
|          |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala      | Leu | Val | Thr | Phe | Gly | Gln | Gly | Thr | Lys | Val | Glu | Ile | Lys |     |     |
|          |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |

<210> 21  
 <211> 121  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:21 (HC VR 12C4)

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 21 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Glu      | Val | Lys | Leu | Glu | Glu | Ser | Gly | Gly | Gly | Leu | Met | Gln | Pro | Gly | Gly |
| 1        |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ser      | Met | Lys | Leu | Ser | Cys | Val | Ala | Ser | Gly | Phe | Thr | Phe | Ser | Asn | Tyr |
|          |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Trp      | Met | Asn | Trp | Val | Arg | Gln | Ser | Pro | Glu | Lys | Gly | Leu | Glu | Trp | Val |
|          |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ala      | Glu | Ile | Arg | Leu | Lys | Ser | Asn | Asn | Tyr | Ala | Thr | His | Tyr | Ala | Glu |
|          | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ser      | Val | Lys | Gly | Arg | Phe | Thr | Ile | Ser | Arg | Asp | Asp | Ser | Lys | Ser | Ser |
| 65       |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Val      | Tyr | Leu | Gln | Met | Asn | Asn | Leu | Arg | Ala | Glu | Asp | Thr | Gly | Ile | Tyr |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Tyr | Cys | Ile | Arg | Asp | Tyr | Asp | Tyr | Asp | Ala | Tyr | Phe | Asp | Tyr | Trp | Gly |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Gln | Gly | Thr | Thr | Leu | Thr | Val | Ser | Ser |     |     |     |     |     |     |     |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     |     |     |     |  |

<210> 22  
 <211> 111  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:22 (LC VR 12C4)

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 22 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Asp      | Ile | Val | Leu | Thr | Gln | Ser | Pro | Ala | Ser | Leu | Ala | Val | Ser | Leu | Gly |  |
| 1        |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Gln      | Arg | Ala | Thr | Ile | Ser | Cys | Arg | Ala | Ser | Lys | Ser | Val | Ser | Thr | Ser |  |
|          |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Gly      | Tyr | Asn | Tyr | Met | Tyr | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Pro | Pro |  |
|          |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |
| Lys      | Leu | Leu | Ile | Tyr | Leu | Ala | Ser | Asn | Leu | Glu | Ser | Gly | Val | Pro | Ala |  |
|          | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Arg      | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Asn | Ile | His |  |
| 65       |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |  |
| Pro      | Val | Glu | Glu | Glu | Asp | Ala | Ala | Thr | Tyr | Tyr | Cys | Gln | His | Ser | Gly |  |
|          |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |
| Glu      | Leu | Pro | Tyr | Thr | Phe | Gly | Gly | Gly | Thr | Lys | Leu | Glu | Ile | Lys |     |  |
|          |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |  |

<210> 23  
 <211> 113  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> SEQ ID NO:23 (HC KWAR23 )

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 23 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Glu      | Val | Gln | Leu | Gln | Gln | Ser | Gly | Ala | Glu | Leu | Val | Lys | Pro | Gly | Ala |  |
| 1        |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Ser      | Val | Lys | Leu | Ser | Cys | Thr | Ala | Ser | Gly | Phe | Asn | Ile | Lys | Asp | Tyr |  |
|          |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Tyr      | Ile | His | Trp | Val | Gln | Gln | Arg | Thr | Glu | Gln | Gly | Leu | Glu | Trp | Ile |  |
|          |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |
| Gly      | Arg | Ile | Asp | Pro | Glu | Asp | Gly | Glu | Thr | Lys | Tyr | Ala | Pro | Lys | Phe |  |
|          | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Gln      | Asp | Lys | Ala | Thr | Ile | Thr | Ala | Asp | Thr | Ser | Ser | Asn | Thr | Ala | Tyr |  |
| 65       |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |  |
| Leu      | His | Leu | Ser | Ser | Leu | Thr | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |  |
|          |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |
| Ala      | Arg | Trp | Gly | Ala | Tyr | Trp | Gly | Gln | Gly | Thr | Leu | Val | Thr | Val | Ser |  |
|          |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |  |

Ser

<210> 24  
<211> 108  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> SEQ ID NO:24 (LC VR KWAR23)

<400> 24  
Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly  
1 5 10 15  
Glu Lys Val Thr Leu Thr Cys Ser Ala Ser Ser Ser Val Ser Ser Ser  
20 25 30  
Tyr Leu Tyr Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Leu Trp  
35 40 45  
Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser  
50 55 60  
Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu  
65 70 75 80  
Ala Glu Asp Ala Ala Ser Tyr Phe Cys His Gln Trp Ser Ser Tyr Pro  
85 90 95  
Arg Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
100 105

<210> 25  
<211> 330  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> SEQ ID NO 25: (human IgG1 antibody HC constant region)

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     |     |     | 150 |     |     |     | 155 |     |     | 160 |     |     |     |     |
| Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala | Lys | Thr | Lys | Pro | Arg | Glu |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Glu | Gln | Tyr | Asn | Ser | Thr | Tyr | Arg | Val | Val | Ser | Val | Leu | Thr | Val | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr | Lys | Cys | Lys | Val | Ser | Asn |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Ala | Leu | Pro | Ala | Pro | Ile | Glu | Lys | Thr | Ile | Ser | Lys | Ala | Lys | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu | Pro | Pro | Ser | Arg | Asp | Glu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Leu | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu | Val | Lys | Gly | Phe | Tyr |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Pro | Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn | Gly | Gln | Pro | Glu | Asn |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asn | Tyr | Lys | Thr | Thr | Pro | Pro | Val | Leu | Asp | Ser | Asp | Gly | Ser | Phe | Phe |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Leu | Tyr | Ser | Lys | Leu | Thr | Val | Asp | Lys | Ser | Arg | Trp | Gln | Gln | Gly | Asn |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Val | Phe | Ser | Cys | Ser | Val | Met | His | Glu | Ala | Leu | His | Asn | His | Tyr | Thr |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gln | Lys | Ser | Leu | Ser | Leu | Ser | Pro | Gly | Lys |     |     |     |     |     |     |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     |     |

<210> 26

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO 26: (human IgG antibody LC 2 constant region)

<400> 26

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp | Glu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gln | Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Ser | Gly | Asn | Ser | Gln | Glu | Ser | Val | Thr | Glu | Gln | Asp | Ser | Lys | Asp | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Tyr | Ser | Leu | Ser | Ser | Thr | Leu | Thr | Leu | Ser | Lys | Ala | Asp | Tyr | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Lys | His | Lys | Val | Tyr | Ala | Cys | Glu | Val | Thr | His | Gln | Gly | Leu | Ser | Ser |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | Val | Thr | Lys | Ser | Phe | Asn | Arg | Gly | Glu | Cys |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     |     |     |

<210> 27

<211> 330

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO 27: (human IgG1 antibody HC constant region LALA mutant  
(mutations underlined>)

<400> 27

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Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1      5      10      15
Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20     25     30
Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35     40     45
Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50     55     60
Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65     70     75     80
Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85     90     95
Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100    105    110
Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115    120    125
Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130    135    140
Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145    150    155    160
Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165    170    175
Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180    185    190
His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195    200    205
Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210    215    220
Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
225    230    235    240
Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245    250    255
Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260    265    270
Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275    280    285
Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290    295    300
Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305    310    315    320
Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325    330

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<210> 28

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> SEQ ID NO:28 (leader sequence antibodies 1-9)

<400> 28

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly  
1 5 10 15  
Val His Ser

<210> 29

<211> 21

&lt;212&gt; PRT

### <213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> SEQ ID NO:29 (HAVT20 leader sequence)

<400> 29

Met Ala Cys Pro Gly Phe Leu Trp Ala Leu Val Ile Ser Thr Cys Leu  
1 5 10 15  
Glu Phe Ser Met Ala  
20