

## SEQUENCE LISTING

<110> Institut National de la Santé et de la Recherche Médicale  
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 Billiald, Philippe  
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<120> Anti-glycoprotein VI SFCV fragment for treatment of thrombosis

<130> D24429

<150> EP06291673.9  
 <151> 2006-10-26

<160> 50

<170> PatentIn version 3.3

<210> 1  
 <211> 266  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> Murine 9012.2 scFv fragment complete amino acid sequence

<400> 1

Gln Val Gln Leu Gln Glu Ser Gly Ala Glu Leu Val Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr  
 20 25 30  
 Asn Met His Trp Val Lys Gln Thr Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45  
 Gly Gly Ile Tyr Pro Gly Asn Gly Asp Thr Ser Phe Asn Gln Lys Phe  
 50 55 60  
 Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Arg Thr Ala Tyr  
 65 70 75 80  
 Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Arg Gly Thr Val Val Gly Asp Trp Tyr Phe Asp Val Trp Gly Ala  
 100 105 110  
 Gly Thr Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly  
 115 120 125  
 Gly Ser Gly Gly Gly Gly Ser Asp Val Leu Met Thr Gln Thr Pro Leu  
 130 135 140  
 Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser  
 145 150 155 160  
 Ser Gln Ser Leu Glu Asn Ser Asn Gly Asn Thr Tyr Leu Asn Trp Tyr  
 165 170 175  
 Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Arg Val Ser  
 180 185 190  
 Asn Arg Phe Ser Gly Val Leu Asp Arg Phe Ser Gly Ser Gly Ser Gly  
 195 200 205  
 Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly  
 210 215 220  
 Val Tyr Phe Cys Leu Gln Leu Thr His Val Pro Trp Thr Phe Gly Gly  
 225 230 235 240  
 Gly Thr Lys Leu Glu Ile Lys Arg Ser Arg Val Thr Val Ser Ser Glu

Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn 255  
 245 250  
 260 265

<210> 2  
 <211> 10  
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<220>  
 <223> Murine 9012.2 scFv fragment VH domain CDR1

<400> 2

Gly Tyr Thr Phe Thr Ser Tyr Asn Met His  
 1 5 10

<210> 3  
 <211> 17  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> Murine 9012.2 scFv fragment VH domain CDR2

<400> 3

Gly Ile Tyr Pro Gly Asn Gly Asp Thr Ser Phe Asn Gln Lys Phe Lys  
 1 5 10 15  
 Gly

<210> 4  
 <211> 11  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> Murine 9012.2 scFv fragment VH domain CDR3

<400> 4

Gly Thr Val Val Gly Asp Trp Tyr Phe Asp Val  
 1 5 10

<210> 5  
 <211> 16  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> Murine 9012.2 scFv fragment VL domain CDR1

<400> 5

Arg Ser Ser Gln Ser Leu Glu Asn Ser Asn Gly Asn Thr Tyr Leu Asn  
 1 5 10 15

<210> 6

<211> 7

<212> PRT

<213> Artificial sequence

<220>

<223> Murine 9012.2 scFv fragment VL domain CDR2

<400> 6

Arg Val Ser Asn Arg Phe Ser

1 5

<210> 7

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> Murine 9012.2 scFv fragment VL domain CDR3

<400> 7

Leu Gln Leu Thr His Val Pro Trp Thr

1 5

<210> 8

<211> 15

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide linker

<400> 8

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser

1 5 10 15

<210> 9

<211> 15

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide linker

<400> 9

Gly Gly Gly Gly Ile Ala Pro Ser Met Val Gly Gly Gly Gly Ser

1 5 10 15

<210> 10

<211> 15

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide linker

<400> 10

Gly Gly Gly Gly Lys Val Glu Gly Ala Gly Gly Gly Gly Gly Ser  
1 5 10 15

<210> 11

<211> 15

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide linker

<400> 11

Gly Gly Gly Gly Ser Met Lys Ser His Asp Gly Gly Gly Gly Ser  
1 5 10 15

<210> 12

<211> 15

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide linker

<400> 12

Gly Gly Gly Gly Asn Leu Ile Thr Ile Val Gly Gly Gly Gly Ser  
1 5 10 15

<210> 13

<211> 14

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide linker

<400> 13

Gly Gly Gly Gly Val Val Pro Ser Leu Gly Gly Gly Gly Ser  
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<210> 14

<211> 12

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide linker

<400> 14

Gly Gly Glu Lys Ser Ile Pro Gly Gly Gly Gly Ser  
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<210> 15  
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 <213> Artificial sequence

<220>  
 <223> Suitable peptide linker

<400> 15

Gly Ser Thr Ser Gly Ser Gly Lys Ser Ser Glu Gly Ser Gly Ser Thr  
 1                   5                           10                           15  
 Lys Gly

<210> 16  
 <211> 6  
 <212> PRT  
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<220>  
 <223> Suitable peptide tag

<400> 16

His His His His His His  
 1                   5

<210> 17  
 <211> 11  
 <212> PRT  
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<220>  
 <223> Suitable peptide tag

<400> 17

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn  
 1                   5                           10

<210> 18  
 <211> 9  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> Suitable peptide tag

<400> 18

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala  
 1                   5

<210> 19

<211> 8

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide tag

<400> 19

Asp Tyr Lys Asp Asp Asp Asp Lys  
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<210> 20

<211> 12

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide tag

<400> 20

Glu Asp Gln Val Asp Pro Arg Leu Ile Asp Gly Lys  
1 5 10

<210> 21

<211> 12

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide tag

<400> 21

Glu Glu Thr Ala Arg Phe Gln Pro Gly Tyr Arg Ser  
1 5 10

<210> 22

<211> 14

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide tag

<400> 22

Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr  
1 5 10

<210> 23

<211> 11

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide tag

<400> 23

Tyr Thr Asp Ile Glu Met Asn Arg Leu Gly Lys  
1                   5                   10

<210> 24

<211> 8

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide tag

<400> 24

Asp Leu Tyr Asp Asp Asp Asp Lys  
1                   5

<210> 25

<211> 8

<212> PRT

<213> Artificial sequence

<220>

<223> Suitable peptide spacer

<400> 25

Arg Ser Arg Val Thr Val Ser Ser  
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<210> 26

<211> 120

<212> PRT

<213> Artificial sequence

<220>

<223> First humanized 9012.2 scFv fragment VH amino acid  
sequence

<400> 26

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

Ala Arg Gly Thr Val Val Gly Asp Trp Tyr Phe Asp Val Trp Gly Gln  
                   100                  105                  110  
 Gly Thr Leu Val Thr Val Ser Ser  
           115                  120

<210> 27  
 <211> 131  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> First humanized 9012.2 scFv fragment VL amino acid  
 sequence

<400> 27

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

<210> 28  
 <211> 266  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> First humanized 9012.2 scFv fragment complete amino acid  
 sequence

<400> 28

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

100 105 110  
 Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly  
 115 120 125  
 Gly Ser Gly Gly Gly Ser Asp Val Leu Met Thr Gln Ser Pro Ser  
 130 135 140  
 Ser Leu Ser Ala Ser Val Gly Asp Arg Val Asn Ile Ala Cys Arg Ser  
 145 150 155 160  
 Ser Gln Ser Leu Glu Asn Ser Asn Gly Asn Thr Tyr Leu Asn Trp Tyr  
 165 170 175  
 Leu Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile Tyr Arg Val Ser  
 180 185 190  
 Asn Arg Phe Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
 195 200 205  
 Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
 210 215 220  
 Ile Tyr Tyr Cys Leu Gln Leu Thr His Val Pro Trp Thr Phe Gly Gly  
 225 230 235 240  
 Gly Thr Lys Val Glu Ile Lys Arg Ser Arg Val Thr Val Ser Ser Glu  
 245 250 255  
 Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn  
 260 265

<210> 29  
 <211> 804  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> First humanized 9012.2 scFv fragment VH nucleotide sequence

<400> 29  
 cagggtgcagc tgcaggagtc aggggctgag ctggtgaagc ctggggcttc agtgaagatg 60  
 tcctgcaagg cttctggcta cacatttacc agttacaata tgcactgggt aaagcagaca 120  
 cctggacagg gcctggaatg gattggaggt atttatccag gaaatgggtga cacttccttc 180  
 aatcagaagt tcaaaggcaa ggccacattg acagctgaca aatcctccag gacagcctac 240  
 atgcagctca gcagcctgac atctgaggac totgcggtct attactgtgc aagaggaacg 300  
 gtagtaggcg actggtactt cgatgtctgg ggcgcagggg cactctcac agtctcctca 360  
 ggcggaggcg gatccgggtg tggcggatct ggaggtggcg gaagcgatgt tttgatgacc 420  
 caaacctcac tctccctgcc tgtcagtctt ggagatcaag cctccatctc ttgcaggtct 480  
 agtcagagcc ttgaaaacag taatggaaac acctatttga actggtacct ccagaaacca 540  
 ggccagtctc cacagctcct gatctacagg gtttccaacc gattttctgg ggtcctagac 600  
 aggttcagtg gtagtggatc agggacagat ttcacactga aaatcagcag agtggaggct 660  
 gaggatttgg gagtttattt ctgcctccaa cttacacatg tcccgtggac gttcgggtgga 720  
 ggcaccaagc tggagatcaa acgctcgagg gtcaccgtct cctcagaaca aaaactcatc 780  
 tcagaagagg atctgaatta ataa 804

<210> 30  
 <211> 808  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> First humanized 9012.2 scFv fragment VL nucleotide sequence

<400> 30  
 cagggtgcagc tgcaggagag cggcgcggaa gtgaaaaaac cgggcgcgag cgtgaaagtg 60  
 agctgtaaag cgagcgggcta tagcttacc agctataata tgcatgggt gcgtcaggcg 120  
 ccgggccagc gtctagaatg gatggcggc atttatccgg gcaatggcga taccagcttt 180  
 aatcagaat ttaaaggcaa agcgaccctg accgccgata aaagcagccg taccgcgtat 240

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atgggcctga gcagcctgcg cccggaagac accgccgtgt attattgtgc gcgtagcacc 300
gtggtgggcg attggtatth tgatgtgtgg ggccagggca ccctggtgac cgtgagcagc 360
ggcggaggcg gatccgggtg tgccgatct ggaggtggcg gaagcagatgt gctgatgacc 420
cagagcccga gcagcctgag cgcagcgtg ggcgatcgtg tgaacattgc ctgccgtagc 480
agccagagcc tggaaatgag caacggcaac acctatctga actggtatct ccagaaaccg 540
ggcaaagcgc cgcggctgct gatttatcgt gtgagcaacc gttttagcgg cgtgccgagc 600
cgctttagcg gctccggaag cggcaccgat tttaccctga ccattagcag cctccagccg 660
gaagattttg ccatctatta ttgcctccag ctgaccctat tgccgtggac ctttgggtggc 720
ggcaccaaag tggaaatcaa acgctcgaga gttaccgtta gcagcgaaca gaaactgatt 780
agcgaagaag atctgaatta ataataag 808

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<210> 31
<211> 360
<212> DNA
<213> Artificial sequence

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<220>
<223> First humanized 9012.2 scFv fragment complete nucleotide
sequence

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caggtgcagc tgcaggagag cggcgcggaa gtgaaaaaac cggcgcgag cgtgaaagtg 60
agctgtaaag cgagcgggcta tagctttacc agctataata tgattgggt gctcagcagc 120
ccgggccagc gtctagaatg gatggcggc atttatccgg gcaatggcga taccagcttt 180
aatcagaaat ttaaaggcaa agcgcacctg accgccgata aaagcagccg taccgcgat 240
atgggcctga gcagcctgcg cccggaagac accgccgtgt attattgtgc gcgtagcacc 300
gtggtgggcg attggtatth tgatgtgtgg ggccagggca ccctggtgac cgtgagcagc 360

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<210> 32
<211> 403
<212> DNA
<213> Artificial sequence

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<220>
<223> Humanized 9012.2 scFv fragment VL domain

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<400> 32
gatgtgctga tgaccagag cccgagcagc ctgagcgcca gctgggcga tcgtgtgaa 60
attgcctgcc gtagcagcca gagcctggaa atgagcaacg gcaacaccta tctgaactgg 120
tatctccaga aaccgggcaa agcgcggcgg ctgctgattt atcgtgtgag caaccgttt 180
agcggcgtgc cgagcgcgtt tagcggctcc ggaagcggca ccgattttac cctgaccatt 240
agcagcctcc agccggaaga ttttgccatc tattattgcc tccagctgac ccatgtgccg 300
tggacctttg gtggcggcac caaagtggaa atcaaacgct cgagagttac cgtagcagc 360
gaacagaaac tgattagcga agaagatctg aattaataat aag 403

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<210> 33
<211> 23
<212> DNA
<213> Artificial sequence

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<220>
<223> Oligodesoxyribonucleotide

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<400> 33
taatacgact cactagggcg aat 23

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<210> 34

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<211> 20  
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 <213> Artificial sequence  
  
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 <223> Oligodesoxyribonucleotide  
  
 <400> 34  
 cggcagccgc tggattgta 20  
  
 <210> 35  
 <211> 29  
 <212> DNA  
 <213> Artificial sequence  
  
 <220>  
 <223> Oligodesoxyribonucleotide  
  
 <400> 35  
 cgagcttagc cttataatt cagatcctc 29  
  
 <210> 36  
 <211> 68  
 <212> DNA  
 <213> Artificial sequence  
  
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 <223> Oligodesoxyribonucleotide  
  
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 ggagggcggat ccggtggtgg cggatctgga ggtggcggaa gcgatgtttt gatgacccaa 60  
 actccact 68  
  
 <210> 37  
 <211> 39  
 <212> DNA  
 <213> Artificial sequence  
  
 <220>  
 <223> Oligodesoxyribonucleotide  
  
 <400> 37  
 accaccggat ccgcctccgc ctgaggagac ggtgaccgt 39  
  
 <210> 38  
 <211> 30  
 <212> DNA  
 <213> Artificial sequence  
  
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 <223> Oligodesoxyribonucleotide  
  
 <400> 38  
 gaccctcgag cgtttgatct ccagcttgg 30  
  
 <210> 39  
 <211> 21  
 <212> DNA

<213> Artificial sequence

<220>  
<223> Oligodesoxyribonucleotide

<400> 39  
ggcgactggt acttcgatgt c 21

<210> 40  
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<212> DNA  
<213> Artificial sequence

<220>  
<223> Oligodesoxyribonucleotide

<400> 40  
aaatggtgac acttccttca atca 24

<210> 41  
<211> 24  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Oligodesoxyribonucleotide

<400> 41  
gttttcaagg ctctgactag acct 24

<210> 42  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Oligodesoxyribonucleotide

<400> 42  
ggattacagt tggcagca tc 22

<210> 43  
<211> 21  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Oligodesoxyribonucleotide

<400> 43  
gayattgtgm tsacmcarwc t 21

<210> 44  
<211> 32  
<212> DNA  
<213> Artificial sequence

<220>

<223> Oligodesoxyribonucleotide

<400> 44

cgggatcctc tagacagtgg ataracmgat gg

32

<210> 45

<211> 35

<212> DNA

<213> Artificial sequence

<220>

<223> Oligodesoxyribonucleotide

<400> 45

cgggatcctc tagaggtsma rctgcagsag tcwgg

35

<210> 46

<211> 131

<212> PRT

<213> Artificial sequence

<220>

<223> Second humanized 9012.2 scFv fragment VL amino acid  
sequence

<400> 46

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

<210> 47

<211> 266

<212> PRT

<213> Artificial sequence

<220>

<223> Second humanized 9012.2 scFv fragment complete amino acid  
sequence

<400> 47

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

<210> 48

<211> 360

<212> DNA

<213> Artificial sequence

<220>

<223> Second humanized 9012.2 scFv fragment VH nucleotide sequence

<400> 48

caggtgcagc tgcaggaaag cggcgccgaa gttaaaaaac cgggcgccag cgtgaaagtg 60

agctgtaaag cgagcgggcta tagctttacc agctataaca tgcattgggt tcgtcaggcg 120

ccgggtcagc gtctagaatg gatgggcggc atttatccgg gcaacggcga taccagcttt 180

aaccagaaat tcaaaggcaa agcgaccctg accgccgata aaagcagccg taccgcctat 240

atgggcctga gcagcctgcg cccggaagac accgccgttt attattgcgc gcgtggcacc 300

gtgggtggcg attggtatatt tgatgtgtgg ggccagggca ccctggttac cgtgagcagc 360

<210> 49

<211> 399

<212> DNA  
 <213> Artificial sequence

<220>  
 <223> Second humanized 9012.2 scFv fragment VL nucleotide sequence.

<400> 49  
 gatgttttga tgacccaaac tccactctcc ctgcctgtca gtcttggaga tcaagcctcc 60  
 atctcttgca ggtctagtca gagccttgaa aacagtaatg gaaacaccta tttgaactgg 120  
 tacctccaga aaccaggcca gtctccacag ctctgatct acagggtttc caaccgattt 180  
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 agcagcctgc aaccggaaga ttttgcgatt tattattgtc tgcaactgac ccatgtgccg 300  
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