

SEQUENCE LISTING

<110> JSC "BIOCAD"

<120> MONOCLONAL ANTIBODIES AGAINST THE BETA CHAIN REGION OF HUMAN TRBV9

<130> MA043.docx

<150> RU 2018146031

<151> 2018-12-25

<160> 22

<170> PatentIn version 3.5

<210> 1

<211> 5

<212> PRT

<213> Artificial

<220>

<223> The HCDR1 sequence of the parental antibody TRBV9-2

<400> 1

Asp Tyr Leu Val His
1 5

<210> 2

<211> 17

<212> PRT

<213> Artificial

<220>

<223> The HCDR2 sequence of the parental antibody TRBV9-2

<400> 2

Trp Ile Asn Thr Tyr Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe Glu
1 5 10 15

Gly

<210> 3

<211> 13

<212> PRT

<213> Artificial

<220>

<223> The HCDR3 sequence of the parental antibody TRBV9-2

<400> 3

Ser Trp Arg Arg Gly Leu Arg Gly Ile Gly Phe Asp Tyr
1 5 10

<210> 4

<211> 11

<212> PRT

<213> Artificial

<220>

<223> The LCDR1 sequence of the parental antibody TRBV9-2

<400> 4

Lys Ala Ser Lys Ser Ile Asn Lys Tyr Leu Ala
1 5 10

<210> 5

<211> 7

<212> PRT

<213> Artificial

<220>

<223> The LCDR2 sequence of the parental antibody TRBV9-2

<400> 5

Asp Gly Ser Thr Leu Gln Ser
1 5

<210> 6

<211> 9

<212> PRT

<213> Artificial

<220>

<223> The LCDR3 sequence of the parental antibody TRBV9-2

<400> 6

Gln Gln His Asn Glu Tyr Pro Pro Thr
1 5

<210> 7

<211> 366

<212> DNA

<213> Artificial

<220>

<223> The nucleotide sequence of the variable domain of the heavy chain of the parental antibody TRBV9-2

<400> 7

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cccggttaagg gattgaaatg gatgggatgg atcaatactt ataccggcac acctacatat      180
gcagacgatt tcgaggggac atttgtgttc agtttgaggg cctctgccag cacggcgaac      240
ctgcagatat cgaatctcaa gaatgaggac accgccacgt atttctgcgc tagatcttgg      300
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tcatcc                                         366
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<210> 8

<211> 122

<212> PRT

<213> Artificial

<220>

<223> The amino acid sequence of the variable domain of the heavy chain of the parental antibody TRBV9-2

<400> 8

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Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Arg Glu Pro Gly Glu
1           5           10          15
```

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

```
Leu Val His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys Trp Met
          35          40          45
```

```
Gly Trp Ile Asn Thr Tyr Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
50          55          60
```

```
Glu Gly Arg Phe Val Phe Ser Leu Glu Ala Ser Ala Ser Thr Ala Asn
65          70          75          80
```

```
Leu Gln Ile Ser Asn Leu Lys Asn Glu Asp Thr Ala Thr Tyr Phe Cys
          85          90          95
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Ala Arg Ser Trp Arg Arg Gly Leu Arg Gly Ile Gly Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Val Phe Val Thr Val Ser Ser
115 120

<210> 9
<211> 321
<212> DNA
<213> Artificial

<220>
<223> The nucleotide sequence of the light chain variable domain
of the parental antibody TRBV9-2

<400> 9
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atcaattgca aggcacatcga gtcgatcaac aagtatcttg cgtggtatca gcagaagcca 120
ggaaagccca acaagctcct gatctatgac ggctctacac tgcaatctgg cataccttcg 180
cggttttctg gtcgggggtc cgggactgac ttcactctta caatacgagg acttgaaccc 240
gaagacttcg gcctgtatta ctgccagcag cacaatgagt atccacctac cttcggggct 300
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<210> 10
<211> 107
<212> PRT
<213> Artificial

<220>
<223> The amino acid sequence of the light chain variable domain
of the parental antibody TRBV9-2

<400> 10

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

Glu Ser Val Ser Ile Asn Cys Lys Ala Ser Lys Ser Ile Asn Lys Tyr
20 25 30

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

Tyr Asp Gly Ser Thr Leu Gln Ser Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Phe Gly Leu Tyr Tyr Cys Gln Gln His Asn Glu Tyr Pro Pro
85 90 95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 11
<211> 639
<212> DNA
<213> Artificial

<220>
<223> The nucleotide sequence of the light chain
of the parental antibody TRBV9-2

<400> 11
gacgtgcaga tgaccagtc cccctacaac ctggccgcct ccccggcga gtccgtgtcc 60
atcaactgca aggcctccaa gtccatcaac aagtacctgg cctggtacca gcagaagccc 120
ggcaagccca acaagctgct gatctacgac ggctccaccc tgcagtccgg catcccctcc 180
aggttctccg gctccggctc cggcaccgac ttcaccctga ccatcagggg cctggagccc 240
gaggacttcg gcctgtacta ctgccagcag cacaacgagt accccccac cttcggcgcc 300
ggcaccaagc tggagctgaa gcgaactgtg gctgcaccat ctgtcttcat cttcccgcca 360
tctgatgagc agttgaaatc tggaactgcc tctgtcgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaagggtg gataacgccc tccaatcggg taactcccag 480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600
ctgtcctcgc ccgtcacaaa gagcttcaac aggggagag 639

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

<220>

<223> The amino acid sequence of the light chain
of the parental antibody TRBV9-2

<400> 12

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

Glu Ser Val Ser Ile Asn Cys Lys Ala Ser Lys Ser Ile Asn Lys Tyr
20 25 30

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

Tyr Asp Gly Ser Thr Leu Gln Ser Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Phe Gly Leu Tyr Tyr Cys Gln Gln His Asn Glu Tyr Pro Pro
85 90 95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Thr Val Ala Ala
100 105 110

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

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

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

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

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

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu
210

<210> 13
<211> 1365
<212> DNA
<213> Artificial

<220>
<223> The nucleotide sequence of the heavy chain
of the parental antibody TRBV9-2

<400> 13
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tcctgcaagg cctccggcta caccttcacc gactacctgg tgcactgggt gaagcaggcc 120
cccggcaagg gcctgaagtg gatgggctgg atcaacacct acaccggcac cccacctac 180
gccgacgact tcgagggcag gttcgtgttc tccctggagg cctccgcctc caccgccaac 240
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aggagggggc tgaggggcat cggcttcgac tactggggcc agggcgtgtt cgtgaccgtg 360
tcctccgcct ccaccaaggg cccatcggtc ttccccctgg caccctcctc caagagcacc 420
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tcctcaggac tctactccct cagcagcgtg gtgactgtgc cctctagcag cttgggcacc 600
cagacctaca tctgcaacgt gaatcacaag cccagcaaca ccaaggtgga caagaaagtt 660
gagccccga aatcttgtga caaaactcac acatgcccac cgtgcccagc acctgaactc 720
ctgggggggac cgtcagtctt cctcttcccc caaaaacca aggacaccct catgatctcc 780
cggacccttg aggtcacatg cgtggtggtg gacgtgagcc acgaagacc tgaggtcaag 840
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cagtacaaca gcacgtaccg tgtggtcagc gtcctcaccg tcctgcacca ggactggctg 960
aatggcaagg agtacaagt caaggtctcc aacaaagccc tcccagcccc catcgagaaa 1020
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cgggatgagc tgaccaagaa ccaggtcagc ctgacctgcc tgggtcaaagg cttctatccc	1140
agcgacatcg ccgtgggagtg ggagagcaat gggcagccgg agaacaacta caagaccacg	1200
cctcccgatgc tggactccga cggctccttc ttcctctaca gcaagctcac cgtggacaag	1260
agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcatgaggc tctgcacaac	1320
cactacacgc agaagagcct ctccctgtct ccgggtaaat gataa	1365

<210> 14
 <211> 453
 <212> PRT
 <213> Artificial

<220>
 <223> The amino acid sequence of heavy chain of the parental antibody TRBV9-2

<400> 14

Gln	Ile	Gln	Leu	Val	Gln	Ser	Gly	Pro	Glu	Leu	Arg	Glu	Pro	Gly	Glu
1				5				10						15	

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

Leu	Val	His	Trp	Val	Lys	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Lys	Trp	Met
		35				40						45			

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

Glu	Gly	Arg	Phe	Val	Phe	Ser	Leu	Glu	Ala	Ser	Ala	Ser	Thr	Ala	Asn
65					70				75						80

Leu	Gln	Ile	Ser	Asn	Leu	Lys	Asn	Glu	Asp	Thr	Ala	Thr	Tyr	Phe	Cys
			85					90						95	

Ala	Arg	Ser	Trp	Arg	Arg	Gly	Leu	Arg	Gly	Ile	Gly	Phe	Asp	Tyr	Trp
			100				105						110		

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

Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr
130 135 140

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

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

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

Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn
195 200 205

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

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
225 230 235 240

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
245 250 255

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
260 265 270

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
275 280 285

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

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
305 310 315 320

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

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

340

345

350

Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln
 355 360 365

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 370 375 380

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 385 390 395 400

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

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 420 425 430

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 435 440 445

Leu Ser Pro Gly Lys
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<210> 15

<211> 366

<212> DNA

<213> Artificial

<220>

<223> The nucleotide sequence of the variable heavy chain of
 the antibody MA-043

<400> 15

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agctgcaaag cctcaggcta cacgtttacc gattatcttg tgcattgggt tagacaggct 120

ccaggtaagg gactggaatg gatgggatgg atcaatacct atacaggac accacatat 180

gccgatgact ttgaggagc gtttgtcttc tcacttgata ccagtgcgtc cactgctaac 240

ctccagatat gcagcctgaa gaatgaggac accgccacct attactgcgc ccgatcatgg 300

aggagaggcc tacgaggaat cggattcgat tactgggggtc agggcacttt agtcactgtc 360

tctagc 366

<210> 16
<211> 122
<212> PRT
<213> Artificial

<220>

<223> The amino acid sequence of the variable domain
of the heavy chain of the parental antibody MA-043

<400> 16

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

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

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

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

Glu Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Asn
65 70 75 80

Leu Gln Ile Cys Ser Leu Lys Asn Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Ala Arg Ser Trp Arg Arg Gly Leu Arg Gly Ile Gly Phe Asp Tyr Trp
100 105 110

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

<210> 17
<211> 321
<212> DNA
<213> Artificial

<220>

<223> The nucleotide sequence of the variable light chain
of the antibody MA-043

<400> 17
gacatacaga tgactcaaag cccttattcg ctcaagtgcgt cggtcgggga cagagtaacc 60
atcacctgca aggcgtcaaa gtcaatcaat aagtatctgg cgtgggttcca gcagaagcca 120
ggaaagccta acaagctatt aatatacgat gggctctaccc tccaatccgg ggtcccttca 180
cgattttctg gaagcggctc aggaaccgat ttcacgctga ccatcagtag cttggagcct 240
gaggactttg ccacttatta ttgccagcag cacaacgagt atcctccac cttcggacag 300
ggtacaaaac tggagatcaa g 321

<210> 18
<211> 107
<212> PRT
<213> Artificial

<220>
<223> The amino acid sequence of variable light chain of
the antibody MA-043

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

<210> 19

<211> 1356
<212> DNA
<213> Artificial

<220>

<223> The nucleotide sequence of the heavy chain of the antibody MA-043

<400> 19

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ccaggtaagg gactggaatg gatgggatgg atcaatacct atacagggac acccacatat      180
gccgatgact ttgagggacg gtttgtcttc tcacttgata ccagtgcgtc cactgctaac      240
ctccagatat gcagcctgaa gaatgaggac accgccacct attactgcgc cccgatcatgg      300
aggagaggcc tacgaggaat cggattcgat tactggggtc agggcacttt agtcactgtc      360
tctagcgcta gcaccaaggg cccatcggtc ttccccctgg caccctctc caagagcacc      420
tctgggggca cagcggccct gggctgcctg gtcaaggact acttccccga accggtgacg      480
gtgtcgtgga actcaggcgc cctgaccagc ggcgtgcaca cttccccggc tgtcctacag      540
tcctcaggac tctactccct cagcagcgtg gtgaccgtgc cctccagcag cttgggcacc      600
cagacctaca tctgcaacgt gaatcacaag cccagcaaca ccaaggtgga caagagagtt      660
gagcccaaat cttgtgacaa aactcacaca tgcccaccgt gcccagcacc tgaactcctg      720
gggggaccgt cagtcttcct cttcccccca aaaccaagg acaccctcat gatctcccgg      780
acccctgagg tcacatgcgt ggtgggtggac gtgagccacg aagaccctga ggtcaagttc      840
aactggtacg tggacggcgt ggaggtgcat aatgccaaaga caaagccgcg ggaggagcag      900
tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaat      960
ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagcccccat cgagaaaacc     1020
atctccaaag ccaaagggca gccccgagaa ccacaggtgt acaccctgcc cccatcccgg     1080
gaggagatga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctatcccagc     1140
gacatcgccg tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct     1200
cccgtgctgg actccgacgg ctccttcttc ctctatagca agctcaccgt ggacaagagc     1260
aggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac     1320
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<210> 20
<211> 452
<212> PRT
<213> Artificial

<220>

<223> The amino acid sequence of the heavy chain of the antibody MA-043

<400> 20

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

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

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

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

Glu Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Asn
65 70 75 80

Leu Gln Ile Cys Ser Leu Lys Asn Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Ala Arg Ser Trp Arg Arg Gly Leu Arg Gly Ile Gly Phe Asp Tyr Trp
100 105 110

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

Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr
130 135 140

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

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

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

Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn
195 200 205

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

Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
225 230 235 240

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
245 250 255

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
260 265 270

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
275 280 285

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

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
305 310 315 320

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

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
340 345 350

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

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
370 375 380

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

385 390 395 400

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

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
420 425 430

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
435 440 445

Ser Pro Gly Lys
450

<210> 21
<211> 642
<212> DNA
<213> Artificial

<220>
<223> The nucleotide sequence of the light chain of the antibody MA-043

<400> 21
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atcacctgca aggcgtcaaa gtcaatcaat aagtatctgg cgtggttcca gcagaagcca 120
ggaaagccta acaagctatt aatatacgat ggggtctaccc tccaatccgg ggtcccttca 180
cgattttctg gaagcggctc aggaaccgat ttcacgctga ccatcagtag cttggagcct 240
gaggactttg ccacttatta ttgccagcag cacaacgagt atcctccac cttcggacag 300
ggtacaaaac tggagatcaa gcgtacggtg gctgcacat ctgtcttcat cttcccgcca 360
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cccagagagg ccaaagtaca gtggaagggtg gataacgccc tccaatcggg taactcccag 480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt 642

<210> 22
<211> 214
<212> PRT

<213> Artificial

<220>

<223> The amino acid sequence of a light chain of the antibody MA-043

<400> 22

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

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

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

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

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

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

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

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

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

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

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

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

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210