

24158WOPCTSEQ
SEQUENCE LISTING

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DiStefano, Daniel
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<120> MONOCLONAL ANTIBODY NEUTRALIZING HUMAN RESPIRATORY SYNCYTIAL
VIRUS

<130> 24158-US-PCT

<140> US62/247,841

<141> 2015-10-29

<140> US 62/367,359

<141> 2016-07-27

<160> 22

<170> PatentIn version 3.5

<210> 1

<211> 5

<212> PRT

<213> Homo sapiens

<400> 1

Asp Ser Ala Met Ser
1 5

<210> 2

<211> 19

<212> PRT

<213> Homo sapiens

<400> 2

Phe Ile Lys Ser Lys Thr Tyr Gly Gly Thr Lys Glu Tyr Ala Ala Ser
1 5 10 15

Val Lys Gly

<210> 3

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<211> 16
 <212> PRT
 <213> Homo sapiens

<400> 3

Gly	Ala	Pro	Tyr	Gly	Gly	Asn	Ser	Asp	Tyr	Tyr	Tyr	Gly	Leu	Asp	Val
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<210> 4
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 <212> PRT
 <213> Homo sapiens

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Asp	Ala	Ser	Ser	Leu	Glu	Thr
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<210> 6
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 <213> Homo sapiens

<400> 6

Gln	Gln	Phe	Leu	Asp	Phe	Pro	Phe	Thr
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<210> 7
 <211> 127
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> RB1 heavy chain with amino acid substitution

<400> 7

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

Ser Leu Arg Leu Ser Cys Thr Val Ser Gly Phe Ser Phe Asp Asp Ser
20 25 30

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

Ser Phe Ile Lys Ser Lys Thr Tyr Gly Gly Thr Lys Glu Tyr Ala Ala
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Ile
65 70 75 80

Ala Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Thr Arg Gly Ala Pro Tyr Gly Gly Asn Ser Asp Tyr Tyr Tyr
100 105 110

Gly Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 8
<211> 109
<212> PRT
<213> Homo sapiens

<400> 8

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

Asp Arg Val Thr Ile Thr Cys Arg Thr Ser Gln Asp Val Arg Gly Ala
20 25 30

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

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

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

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

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr
100 105

<210> 9

<211> 127

<212> PRT

<213> Homo sapiens

<400> 9

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

Ser Leu Arg Leu Ser Cys Thr Val Ser Gly Phe Ser Phe Asp Asp Ser
20 25 30

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

Ser Phe Ile Lys Ser Lys Thr Tyr Gly Gly Thr Lys Glu Tyr Ala Ala
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Ile
65 70 75 80

Ala Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Thr Arg Gly Ala Pro Tyr Gly Gly Asn Ser Asp Tyr Tyr Tyr
100 105 110

Gly Leu Asp Val Trp Gly Gln Gly Thr Thr Val Ile Val Ser Ser

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115

120

125

<210> 10
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Leader sequence

<400> 10

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
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Val His Ser

<210> 11
 <211> 146
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> RB1 VH amino acid substituted with leader

<400> 11

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

Val His Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Arg
 20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Val Ser Gly Phe Ser Phe
 35 40 45

Asp Asp Ser Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Ile Ser Phe Ile Lys Ser Lys Thr Tyr Gly Gly Thr Lys Glu
 65 70 75 80

Tyr Ala Ala Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser

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85

90

95

Lys Asn Ile Ala Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr
 100 105 110

Ala Val Tyr Tyr Cys Thr Arg Gly Ala Pro Tyr Gly Gly Asn Ser Asp
 115 120 125

Tyr Tyr Tyr Gly Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val
 130 135 140

Ser Ser
 145

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

<220>
 <223> RB1 VL and leader

<400> 12

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

Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala
 20 25 30

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Thr Ser Gln Asp Val
 35 40 45

Arg Gly Ala Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
 50 55 60

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

Phe Ser Gly Ser Gly Ser Gly Thr Val Phe Thr Leu Thr Ile Ser Ser
 85 90 95

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Leu Gln Pro Glu Asp Phe Ala Ala Tyr Tyr Cys Gln Gln Phe Leu Asp
 100 105 110

Phe Pro Phe Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr
 115 120 125

<210> 13

<211> 330

<212> PRT

<213> Homo sapiens

<400> 13

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

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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> 14
<211> 105
<212> PRT
<213> Homo sapiens

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<400> 14

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu
1 5 10 15

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

Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly
35 40 45

Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr
50 55 60

Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His
65 70 75 80

Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val
85 90 95

Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 15

<211> 381

<212> DNA

<213> Artificial Sequence

<220>

<223> RB1 with amino acid substitution

<400> 15

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tcctgcacag tttctggatt cagctttgac gactctgcta tgagctgggt ccgccaggct	120
ccagggaagg ggctggaatg gataagtttc attaaaagta aaacttatgg tgggacaaaa	180
gaatacgccg cgtctgtgaa aggcaggttc accatctcaa gagatgattc caaaaacatc	240
gcctatctgc aaatgaacag cctgaaaacc gaggacacag ccgtgtatta ttgtactaga	300
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accacggtca ctgtctcctc a 381

<210> 16
 <211> 327
 <212> DNA
 <213> Homo sapiens

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 gggaaagctc ctaaactcct gatctttgat gcctccagtt tggagactgg ggtcccatca 180
 aggttcagcg gcagtggatc tgggacagtt ttcactctca ccatcagcag cctgcagcct 240
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 gggacacgac tggaaatcaa acgtacg 327

<210> 17
 <211> 381
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> RB1 VH codon optimized

<400> 17
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 agctgcaccg tgagcggctt ctcctttgac gattctgcc a tgagctgggt gcggcaggct 120
 ccaggcaagg gactggagtg gatctccttc atcaagtcta agacctacgg cggcacaag 180
 gagtacgccg cttccgtgaa gggccggttt accatcagca gggacgattc caagaacatc 240
 gcctatctgc agatgaacag cctgaagacc gaggacacag ccgtgtacta ttgcacaaga 300
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<210> 18
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>

24158WOPCTSEQ

<223> RB1 VL codon optimized

<400> 18

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ggcaaggccc ccaagctgct gatctttgac gctagctccc tggagaccgg cgtgccctcc 180

aggttttctg gcagcggctc cggcacagtg ttcaccctga caatctctag cctgcagcct 240

gaggactttg ccgcttacta ttgccagcag ttcctggatt tccccttcac cttcggccaa 300

ggcacacggc tggagatcaa gaggacc 327

<210> 19

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Leader sequence heavy chain

<400> 19

atgggttggt cctgtattat cctgttcctg gtcgccactg ctactggggt ccactca 57

<210> 20

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Leader sequence light chain

<400> 20

atgggctggt cctgtattat cctgttcctg gtggcaaccg caactggtgt gcatagc 57

<210> 21

<211> 990

<212> DNA

<213> Homo sapiens

<400> 21

gcctctacaa agggccctag cgtgttccca ctggctccct cttccaagtc taccagcgga 60

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aagtcctgtg ataagacca cacatgcccc cttgtcctg ctccagagct gctgggagga	360
cctagcgtgt tcctgtttcc acccaagcct aaggacaccc tgatgatctc taggaccccc	420
gaggtgacat gcgtggtggt ggacgtgagc cacgaggatc ctgaggtgaa gtttaactgg	480
tacgtcgatg gcgtggaggt gcacaatgcc aagacaaagc ccagagagga gcagtataac	540
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gagtacaagt gcaagggtgtc caataaggcc ctgcccgtc ctatcgagaa gaccatctct	660
aaggccaagg gccagcctag ggagccacag gtgtatacac tgcctccatc cagagacgag	720
ctgaccaaga accaggtgtc tctgacatgt ctggtgaagg gcttctaccc ttctgatatc	780
gccgtggagt gggagagcaa tggccagcca gagaacaatt ataagaccac accccctgtg	840
ctggacagcg atggctcctt ctttctgtac agcaagctga ccgtggataa gtcccgttg	900
cagcagggca acgtgttcag ctgttctgtg atgcacgaag ccctgcacaa tcactacact	960
cagaagagcc tgtccctgtc acctggtaaa	990

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gtggataacg ctctgcagtc tggcaatagc caggagtccg tgaccgagca ggactctaag	180
gatagcacat attccctgtc ctctaccctg acactgtcta aggccgatta cgagaagcac	240
aagggtgatg cttgtgaagt caccaccag gggctgagtt caccagtcac caagtcattc	300
aatcggggcg agtgc	315