

Sequence listing(OPA17181)

<110> Dong-A University Research Foundation For Industry-Academy Cooperation
Prestige BioPharma Pte. Ltd.

<120> Antibody specifically binding to PAUF and use thereof

<130> OPA17181

<150> 10-2017-0096370

<151> 2017-07-28

<160> 39

<170> KoPatentIn 3.0

<210> 1

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> VH-CDR1 of 2H2, 20C5 and hPMab22

<400> 1

Gly Phe Asn Ile Lys Asp Tyr Tyr
1 5

<210> 2

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> VH-CDR2 of 2H2 and hPMab22

<400> 2

Ile Asp Pro Glu Asn Gly Asn Thr
1 5

<210> 3

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> VH-CDR3 of 2H2 and hPMab22

<400> 3

Ala Arg Arg Ala Ile Thr Thr Ala Thr Ala Trp Phe Ala
1 5 10

<210> 4

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> VH-CDR3 of 2H2 and hPMab22

<400> 4

Ala Arg Arg Ala Ile Thr Thr Ala Thr Ala Trp Phe Ala Tyr
1 5 10

Sequence listing(OPA17181)

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

<220>
 <223> VL-CDR1 of 2H2, 20C5 and hPMab22

<400> 5
 Gln Ser Leu Leu Asn Ser Arg Thr Arg Lys Asn Tyr
 1 5 10

<210> 6
 <211> 3
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VL-CDR2 of 2H2, 20C5 and hPMab22

<400> 6
 Trp Ala Ser
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<210> 7
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VL-CDR3 of 2H2 and hPMab22

<400> 7
 Lys Gln Ser Tyr Asn Leu Tyr
 1 5

<210> 8
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-FR1 of 2H2

<400> 8
 Gln Val Gln Leu Lys Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
 1 5 10 15
 Leu Val Lys Leu Ser Cys Lys Ala Ser
 20 25

<210> 9
 <211> 17
 <212> PRT
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<220>
 <223> VH-FR2 of 2H2 and 20C5

Sequence listing(OPA17181)

<400> 9
Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile Gly
1 5 10 15

Trp

<210> 10
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> VH-FR3 of 2H2

<400> 10
Ile Tyr Asp Pro Lys Phe Gln Gly Lys Ala Ser Ile Thr Ala Asp Thr
1 5 10 15

Ser Ser Asn Thr Ala Tyr Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp
20 25 30

Thr Ala Val Tyr Tyr Cys
35

<210> 11
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> VH-FR4 of 2H2

<400> 11
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
1 5 10

<210> 12
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> VH-FR4 of 2H2

<400> 12
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
1 5 10

<210> 13
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> VL-FR1 of 2H2

<400> 13

Sequence listing(OPA17181)

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

Glu Lys Val Thr Met Ser Cys Lys Ser Ser
 20 25

<210> 14
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VL-FR2 of 2H2 and 20C5

<400> 14
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
 1 5 10 15

Tyr

<210> 15
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<220>
 <223> VL-FR3 of 2H2 and 20C5

<400> 15
 Thr Arg Glu Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly
 1 5 10 15

Thr Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala
 20 25 30

Val Tyr Tyr Cys
 35

<210> 16
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VL-FR4 of 2H2

<400> 16
 Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 1 5 10

<210> 17
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH of 2H2

<400> 17

Sequence listing(OPA17181)

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

<210> 18
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VL of 2H2

<400> 18
 Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
 1 5 10 15
 Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
 20 25 30
 Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 35 40 45
 Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
 50 55 60
 Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 65 70 75 80
 Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln
 85 90 95
 Ser Tyr Asn Leu Tyr Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 100 105 110

<210> 19
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-FR1 of hPMAb22

Sequence listing(OPA17181)

<400> 19
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser
 20 25

<210> 20
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-FR2 of hPMAb22

<400> 20
 Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
 1 5 10 15
 Trp

<210> 21
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-FR3 of hPMAb22

<400> 21
 Asn Tyr Ala Gln Lys Phe Gln Gly Arg Val Thr Met Thr Arg Asp Thr
 1 5 10 15
 Ser Ile Ser Thr Ala Tyr Met Glu Leu Ser Arg Leu Arg Ser Asp Asp
 20 25 30
 Thr Ala Val Tyr Tyr Cys
 35

<210> 22
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-FR4 of hPMAb22

<400> 22
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

<210> 23
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-FR4 of hPMAb22

Sequence listing(OPA17181)

<400> 23
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 24
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> VL-FR1 of hPMab22

<400> 24
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser
20 25

<210> 25
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> VL-FR2 of hPMab22

<400> 25
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
1 5 10 15
Tyr

<210> 26
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> VL-FR3 of hPMab22

<400> 26
Thr Arg Glu Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
1 5 10 15
Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala
20 25 30
Val Tyr Tyr Cys
35

<210> 27
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> VL-FR4 of hPMab22

Sequence listing(OPA17181)

<400> 27
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 1 5 10

<210> 28
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH of hPMab22

<400> 28
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Tyr
 20 25 30
 Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asp Pro Glu Asn Gly Asn Thr Asn Tyr Ala Gln Lys Phe
 50 55 60
 Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Arg Ala Ile Thr Thr Ala Thr Ala Trp Phe Ala Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 29
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VL of hPMab22

<400> 29
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
 20 25 30
 Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 35 40 45
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
 50 55 60
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 65 70 75 80
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Lys Gln
 85 90 95

Sequence listing(OPA17181)

Ser Tyr Asn Leu Tyr Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 30
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-CDR3 of 20C5

<400> 30
 Ala Arg Arg Gly Trp Leu Pro Ala Trp Phe Ala Tyr
 1 5 10

<210> 31
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VL-CDR3 of 20C5

<400> 31
 Lys Gln Ser Tyr Asn Leu Tyr Thr
 1 5

<210> 32
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-FR1 of 20C5

<400> 32
 Gln Val Gln Leu Lys Glu Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
 1 5 10 15
 Leu Val Lys Leu Ser Cys Lys Ala Ser
 20 25

<210> 33
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-FR3 of 20C5

<400> 33
 Ile Tyr Asp Pro Lys Phe Gln Gly Lys Ala Ser Leu Thr Ala Asp Thr
 1 5 10 15
 Ser Ser Asn Thr Ala Tyr Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp
 20 25 30

Thr Ala Val Tyr Tyr Cys

Sequence listing(OPA17181)

35

<210> 34
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> VH-FR4 of 20C5

<400> 34
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
1 5 10

<210> 35
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> VL-FR1 of 20C5

<400> 35
Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
1 5 10 15
Glu Lys Val Thr Leu Ser Cys Lys Ser Ser
20 25

<210> 36
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> VL-FR4 of 20C5

<400> 36
Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 37
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH of 20C5

<400> 37
Gln Val Gln Leu Lys Glu Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
1 5 10 15
Leu Val Lys Leu Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Tyr
20 25 30
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asp Pro Glu His Gly Asn Thr Ile Tyr Asp Pro Lys Phe
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Sequence listing(OPA17181)

50 55 60
 Gln Gly Lys Ala Ser Leu Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Arg Gly Trp Leu Pro Ala Trp Phe Ala Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ala
 115

<210> 38
 <211> 112
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> VL of 20C5

<400> 38
 Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
 1 5 10 15
 Glu Lys Val Thr Leu Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
 20 25 30
 Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 35 40 45
 Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
 50 55 60
 Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 65 70 75 80
 Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln
 85 90 95
 Ser Tyr Asn Leu Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 39
 <211> 8
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> VH-CDR2 of 20C5

<400> 39
 Ile Asp Pro Glu His Gly Asn Thr
 1 5