

Sequence Listing

<110> WuXi Biologics (Shanghai) Co., Ltd.

<120> The novel monoclonal antibodies to programmed death 1 (PD-1)

<130> PCTF1606

<160> 24

<170> PatentIn version 3.3

<210> 1

<211> 115

<212> PRT

<213> Artificial Sequence

<400> 1

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

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

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

Gly	Tyr	Ile	Asn	Met	Gly	Ser	Gly	Gly	Thr	Asn	Tyr	Asn	Glu	Lys	Phe
	50					55					60				

Lys	Gly	Arg	Val	Thr	Ile	Thr	Ala	Asp	Lys	Ser	Thr	Ser	Thr	Ala	Tyr
65					70					75				80	

Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	

Ala	Ile	Leu	Gly	Tyr	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Met	Val	Thr
		100						105					110		

Val	Ser	Ser
		115

<210> 2

<211> 115

<212> PRT

<213> Artificial Sequence

<400> 2

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

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

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

Gly Tyr Ile Asn Met Gly Ser Gly Gly Thr Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Ile Ile Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr
100 105 110

Val Ser Ser
115

<210> 3

<211> 112

<212> PRT

<213> Artificial Sequence

<400> 3

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

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Gly Thr Tyr Leu Tyr Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Thr Leu Gly Ser Gly Val Pro

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

<210> 4
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<400> 4

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

<210> 5
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<400> 5

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

<210> 6
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<400> 6

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

Thr His Trp Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 7
<211> 112
<212> PRT
<213> Artificial Sequence

<400> 7

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

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Asn Thr Tyr Leu Tyr Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Thr Leu Gly Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Leu
85 90 95

Thr His Ala Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 8
<211> 112
<212> PRT
<213> Artificial Sequence

<400> 8

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

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Gln Thr Tyr Leu Tyr Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Thr Leu Gly Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Leu
85 90 95

Thr His Glu Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 9
<211> 112
<212> PRT
<213> Artificial Sequence

<400> 9

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

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Gln Thr Tyr Leu Tyr Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Thr Leu Gly Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Leu
85 90 95

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

<210> 10
<211> 5

<212> PRT
<213> Artificial Sequence

<400> 10

Thr Tyr Tyr Ile Ser
1 5

<210> 11
<211> 17
<212> PRT
<213> Artificial Sequence

<400> 11

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

Gly

<210> 12
<211> 6
<212> PRT
<213> Artificial Sequence

<400> 12

Leu Gly Tyr Phe Asp Tyr
1 5

<210> 13
<211> 6
<212> PRT
<213> Artificial Sequence

<400> 13

Ile Gly Tyr Phe Asp Tyr
1 5

<210> 14
<211> 16
<212> PRT

<213> Artificial Sequence

<400> 14

Arg	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser	Asp	Gly	Gly	Thr	Tyr	Leu	Tyr
1				5					10					15	

<210> 15

<211> 16

<212> PRT

<213> Artificial Sequence

<400> 15

Arg	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser	Asp	Gly	Ser	Thr	Tyr	Leu	Tyr
1				5					10					15	

<210> 16

<211> 16

<212> PRT

<213> Artificial Sequence

<400> 16

Arg	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser	Asp	Gly	Ala	Thr	Tyr	Leu	Tyr
1				5					10					15	

<210> 17

<211> 16

<212> PRT

<213> Artificial Sequence

<400> 17

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

<210> 18

<211> 16

<212> PRT

<213> Artificial Sequence

<400> 18

Arg Ser Ser Gln Ser Leu Leu Asp Ser Asp Gly Gln Thr Tyr Leu Tyr
1 5 10 15

<210> 19
<211> 7
<212> PRT
<213> Artificial Sequence

<400> 19

Leu Val Ser Thr Leu Gly Ser
1 5

<210> 20
<211> 9
<212> PRT
<213> Artificial Sequence

<400> 20

Met Gln Leu Thr His Glu Asn Tyr Thr
1 5

<210> 21
<211> 9
<212> PRT
<213> Artificial Sequence

<400> 21

Met Gln Leu Thr His Trp Pro Tyr Thr
1 5

<210> 22
<211> 9
<212> PRT
<213> Artificial Sequence

<400> 22

Met Gln Leu Thr His Ala Pro Tyr Thr
1 5

<210> 23
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<400> 23

Met Gln Leu Thr His Glu Pro Tyr Thr
 1 5

<210> 24
 <211> 288
 <212> PRT
 <213> homo sapiens

<400> 24

Met Gln Ile Pro Gln Ala Pro Trp Pro Val Val Trp Ala Val Leu Gln
 1 5 10 15

Leu Gly Trp Arg Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp
 20 25 30

Asn Pro Pro Thr Phe Ser Pro Ala Leu Leu Val Val Thr Glu Gly Asp
 35 40 45

Asn Ala Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val
 50 55 60

Leu Asn Trp Tyr Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala
 65 70 75 80

Ala Phe Pro Glu Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg
 85 90 95

Val Thr Gln Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg
 100 105 110

Ala Arg Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu
 115 120 125

Ala Pro Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val
 130 135 140

Thr Glu Arg Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro

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