

SEQUENCE LISTING

<110> Astellas Pharma Inc.

<120> NOVEL ANTI-HUMAN CEACAM5 ANTIBODY FAB FRAGMENT

<130> A18007A00

<150> JP 2017-133698

<151> 2017-07-07

<160> 4

<170> PatentIn version 3.5

<210> 1

<211> 678

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA encoding PB009-01 Fab heavy chain

<220>

<221> CDS

<222> (1)..(678)

<400> 1

gaa	gtg	cag	ctg	gtg	gaa	tct	ggc	ggc	gga	ctg	gtg	cag	cct	ggc	gga	48
Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly	
1				5					10					15		

tct	ctg	aga	ctg	agc	tgt	gcc	gcc	agc	ggc	ttc	aac	atc	cgg	gac	acc	96
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Asn	Ile	Arg	Asp	Thr	
			20					25					30			

tac	atg	cac	tgg	gtg	cgc	cag	gcc	cct	ggc	aag	gga	ctg	gaa	tgg	gtg	144
Tyr	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	
		35					40					45				

gcc	aga	atc	gac	ccc	gcc	aac	ggc	aac	agc	aga	tac	gtg	ccc	aag	ttc	192
Ala	Arg	Ile	Asp	Pro	Ala	Asn	Gly	Asn	Ser	Arg	Tyr	Val	Pro	Lys	Phe	
	50					55					60					

cag	ggc	cgg	ttc	acc	atc	agc	gcc	gac	acc	agc	aga	aac	acc	gcc	tac	240
Gln	Gly	Arg	Phe	Thr	Ile	Ser	Ala	Asp	Thr	Ser	Arg	Asn	Thr	Ala	Tyr	
65					70				75					80		

ctg	cag	atg	aac	agc	ctg	cgg	gcc	gag	gac	acc	gcc	gtg	tac	tac	tgt	288
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
			85						90					95		

gcc	ccc	ttc	ggc	tac	tac	gtg	tcc	gac	tac	gcc	atg	gcc	tat	tgg	ggc	336
Ala	Pro	Phe	Gly	Tyr	Tyr	Val	Ser	Asp	Tyr	Ala	Met	Ala	Tyr	Trp	Gly	
			100					105					110			

cag	ggc	acc	ctc	gtg	aca	gtg	tcc	tca	gcc	tcc	acc	aag	ggc	cca	tcg	384
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	
		115					120					125				

gtc	ttc	ccc	ctg	gca	ccc	tcc	tcc	aag	agc	acc	tct	ggg	ggc	aca	gcg	432
Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	
	130					135					140					

gcc	ctg	ggc	tgc	ctg	gtc	aag	gac	tac	ttc	ccc	gaa	ccg	gtg	acg	gtg	480
Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	
145					150					155					160	

tcg	tgg	aac	tca	ggc	gcc	ctg	acc	agc	ggc	gtg	cac	acc	ttc	ccg	gct	528
Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	
			165						170					175		

gtc	cta	cag	tcc	tca	gga	ctc	tac	tcc	ctt	agt	agc	gtg	gtg	acc	gtg	576
Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	
		180						185					190			

ccc	tcc	agc	agc	ttg	ggc	acc	cag	acc	tac	atc	tgc	aac	gtg	aat	cac	624
Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	
		195					200					205				

aag	ccc	agc	aac	acc	aag	gtg	gac	aag	aaa	gtt	gag	ccc	aaa	tct	tgt	672
Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Lys	Val	Glu	Pro	Lys	Ser	Cys	
	210					215					220					

gac	tga															678
Asp																
225																

<210> 2
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 2

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
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Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Asn	Ile	Arg	Asp	Thr
			20					25					30		

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

Ala Arg Ile Asp Pro Ala Asn Gly Asn Ser Arg Tyr Val Pro Lys Phe
50 55 60

Gln Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Arg Asn Thr Ala Tyr
65 70 75 80

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

Ala Pro Phe Gly Tyr Tyr Val Ser Asp Tyr Ala Met Ala Tyr Trp Gly
100 105 110

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

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

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

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

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

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

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

Asp
225

<210> 3
 <211> 657
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> DNA encoding antibody light chain

<220>
 <221> CDS
 <222> (1)..(657)

<400> 3
 gac atc cag ctg acc cag agc cct agc agc ctg tct gcc agc gtg ggc 48
 Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 gac aga gtg acc atc acc tgt aga gcc ggc gag agc gtg gac atc ttc 96
 Asp Arg Val Thr Ile Thr Cys Arg Ala Gly Glu Ser Val Asp Ile Phe
 20 25 30
 ggc gtg gga ttt ctg cac tgg tat cag cag aag ccc ggc aag gcc ccc 144
 Gly Val Gly Phe Leu His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
 35 40 45
 aag ctg ctg atc tac aga gcc agc aac ctg gaa agc ggc atc ccc agc 192
 Lys Leu Leu Ile Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ser
 50 55 60
 aga ttc agc ggc agc ggc tcc aga acc gac ttc acc ctg acc atc agc 240
 Arg Phe Ser Gly Ser Gly Ser Arg Thr Asp Phe Thr Leu Thr Ile Ser
 65 70 75 80
 agc ctg cag ccc gag gac ttc gcc acc tac tac tgc cag cag acc aac 288
 Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Thr Asn
 85 90 95
 gag gac ccc tac acc ttt ggc cag ggc acc aag gtg gaa atc aag cgt 336
 Glu Asp Pro Tyr Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105 110
 acg gtg gct gca cca tct gtc ttc atc ttc ccg cca tct gat gag cag 384
 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 115 120 125
 ttg aaa tct gga act gcc tct gtt gtg tgc ctg ctg aat aac ttc tat 432
 Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 130 135 140
 ccc aga gag gcc aaa gta cag tgg aag gtg gat aac gcc ctc caa tcg 480
 Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser

145	150	155	160	
ggt aac tcc cag gag agt gtc aca gag cag gac agc aag gac agc acc				528
Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr	165	170	175	
tac agc ctg agc agc acc ctg acg ctg agc aaa gca gac tac gag aaa				576
Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys	180	185	190	
cac aaa gtc tac gcc tgc gaa gtc acc cat cag ggc ctg agc tcg ccc				624
His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro	195	200	205	
gtc aca aag agc ttc aac agg gga gag tgt tag				657
Val Thr Lys Ser Phe Asn Arg Gly Glu Cys	210	215		

<210> 4
 <211> 218
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 4

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

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

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

Lys Leu Leu Ile Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ser
50 55 60

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

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

Glu Asp Pro Tyr Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105 110

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
115 120 125

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
130 135 140

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
145 150 155 160

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
165 170 175

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

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

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
210 215