

<110> MedPacto Inc.
 <120> Inhibitor of transmembrane 4 L6 family member 19 and novel uses thereof
 <130> P22E10C0906
 <150> KR 10-2021-0072352
 <151> 2021-06-03
 <150> KR 10-2021-0174057
 <151> 2021-12-07
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 <170> KoPatentIn 3.0
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 <211> 209
 <212> PRT
 <213> Homo sapiens
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 Ile Leu Gly Leu Ser Leu Gly Thr Ala Ala Leu Phe Ala Ala Gly Ala
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 Asn Val Ala Leu Leu Leu Pro Asn Trp Asp Val Thr Tyr Leu Leu Arg
 35 40 45
 Gly Leu Leu Gly Arg His Ala Met Leu Gly Thr Gly Leu Trp Gly Gly
 50 55 60
 Gly Leu Met Val Leu Thr Ala Ala Ile Leu Ile Ser Leu Met Gly Trp
 65 70 75 80
 Arg Tyr Gly Cys Phe Ser Lys Ser Gly Leu Cys Arg Ser Val Leu Thr
 85 90 95
 Ala Leu Leu Ser Gly Gly Leu Ala Leu Leu Gly Ala Leu Ile Cys Phe
 100 105 110
 Val Thr Ser Gly Val Ala Leu Lys Asp Gly Pro Phe Cys Met Phe Asp
 115 120 125
 Val Ser Ser Phe Asn Gln Thr Gln Ala Trp Lys Tyr Gly Tyr Pro Phe
 130 135 140
 Lys Asp Leu His Ser Arg Asn Tyr Leu Tyr Asp Arg Ser Leu Trp Asn
 145 150 155 160
 Ser Val Cys Leu Glu Pro Ser Ala Ala Val Val Trp His Val Ser Leu

				165					170					175			
Phe	Ser	Ala	Leu	Leu	Cys	Ile	Ser	Leu	Leu	Gln	Leu	Leu	Leu	Val	Val		
			180					185					190				

Val	His	Val	Ile	Asn	Ser	Leu	Leu	Gly	Leu	Phe	Cys	Ser	Leu	Cys	Glu		
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 <213> Homo sapiens

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Ile	Leu	Gly	Leu	Ser	Leu	Gly	Thr	Ala	Ala	Leu	Phe	Ala	Ala	Gly	Ala		
			20					25					30				

Asn	Val	Ala	Leu	Leu	Leu	Pro	Asn	Trp	Asp	Val	Thr	Tyr	Leu	Leu	Arg		
		35					40					45					

Gly	Leu	Leu	Gly	Arg	His	Ala	Met	Leu	Gly	Thr	Gly	Leu	Trp	Gly	Gly		
	50					55					60						

Gly	Leu	Met	Val	Leu	Thr	Ala	Ala	Ile	Leu	Ile	Ser	Leu	Met	Gly	Trp		
65					70					75					80		

Arg	Tyr	Gly	Cys	Phe	Ser	Lys	Ser	Gly	Leu	Cys	Arg	Ser	Val	Leu	Thr		
				85					90					95			

Ala	Leu	Leu	Ser	Gly	Gly	Leu	Ala	Leu	Leu	Gly	Ala	Leu	Ile	Cys	Phe		
			100					105					110				

Val	Thr	Ser	Gly	Val	Ala	Leu	Lys	Asp	Gly	Pro	Phe	Cys	Met	Phe	Asp		
		115					120					125					

Val	Ser	Ser	Phe	Asn	Gln	Thr	Gln	Ala	Trp	Lys	Tyr	Gly	Tyr	Pro	Phe		
	130					135					140						

Lys	Asp	Leu	His	Arg	Ile	Ile	Cys	Met	Thr	Val	Arg	Ser	Gly	Thr	Pro		
145					150					155					160		

Ser	Ala	Trp	Ser	Pro	Leu	Gln	Leu	Leu	Ser	Gly	Thr	Cys	Pro	Ser	Ser		
				165					170					175			

Pro	Pro	Phe	Cys	Ala	Ser	Ala	Cys	Ser	Ser	Phe	Ser	Trp	Trp	Ser	Phe		
			180					185					190				

Met Ser Ser Thr Ala Ser Trp Ala Phe Ser Ala Ala Ser Ala Arg Ser
195 200 205

Asp Arg Gln Asn Leu His Leu Gln Ala Trp Val Phe Ser Ser Ser Ala
210 215 220

Val Leu Asn Pro Phe Tyr Lys Glu Trp Val Arg Ile Ile Asn Lys Leu
225 230 235 240

Pro Leu

<210> 3
<211> 183
<212> PRT
<213> Homo sapiens

<400> 3
Met Val Ser Ser Pro Cys Thr Gln Ala Ser Ser Arg Thr Cys Ser Arg
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Ile Leu Gly Leu Ser Leu Gly Thr Ala Ala Leu Phe Ala Ala Gly Ala
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Asn Val Ala Leu Leu Leu Pro Asn Trp Asp Val Thr Tyr Leu Leu Arg
35 40 45

Gly Leu Leu Gly Arg His Ala Met Leu Gly Thr Gly Leu Trp Gly Gly
50 55 60

Gly Leu Met Val Leu Thr Ala Leu Leu Ser Gly Gly Leu Ala Leu Leu
65 70 75 80

Gly Ala Leu Ile Cys Phe Val Thr Ser Gly Val Ala Leu Lys Asp Gly
85 90 95

Pro Phe Cys Met Phe Asp Val Ser Ser Phe Asn Gln Thr Gln Ala Trp
100 105 110

Lys Tyr Gly Tyr Pro Phe Lys Asp Leu His Ser Arg Asn Tyr Leu Tyr
115 120 125

Asp Arg Ser Leu Trp Asn Ser Val Cys Leu Glu Pro Ser Ala Ala Val
130 135 140

Val Trp His Val Ser Leu Phe Ser Ala Leu Leu Cys Ile Ser Leu Leu
145 150 155 160

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165 170 175

Phe Cys Ser Leu Cys Glu Lys
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 <211> 1026
 <212> DNA
 <213> Homo sapiens

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 cgggtggaatg atagaatgca ttttaaatac cattgtaaac ttccaggtga tccatggata 960
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 gccagg 1026

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 <212> DNA
 <213> Homo sapiens

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tgcaggatgg tgtcctctcc ctgcacgcag gcaagctcac ggacttgctc ccgtatcctg	180
ggactgagcc ttgggactgc agccctgttt gctgctgggg ccaacgtggc actcctcctt	240
cctaactggg atgtcaccta cctgttgagg ggcctccttg gcaggcatgc catgctggga	300
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ggaatgatag aatgcatttt aaatcacatt gtaaacttcc aggtgatcca tggataggat	960
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gg	1022

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 <212> DNA
 <213> Homo sapiens

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tgcaggatgg tgtcctctcc ctgcacgcag gcaagctcac ggacttgctc ccgtatcctg	180
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cctaactggg atgtcaccta cctgttgagg ggcctccttg gcaggcatgc catgctggga	300
actgggctct ggggaggagg cctcatggtg cttactgctc tgttgtcagg tggcctggct	360
ttacttgag ccctgatttg ctttgtcact tctggagttg ctctgaaaga tggtcctttt	420

tgcatgtttg atgtttcatc cttcaatcag acacaagctt ggaaatatgg ttacccattc	480
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ctgctccagc ttctcctggg ggtcgttcat gtcatcaaca gcctcctggg ccttttctgc	660
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cattttaaat cacattgtaa acttccaggt gatccatgga taggataaat aactaagtta	900
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<210> 7
 <211> 206
 <212> PRT
 <213> Mus musculus

<400> 7

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			20					25					30		
Asn	Ile	Ala	Leu	Leu	Phe	Pro	Asn	Trp	Asp	Val	Thr	Tyr	Leu	Met	Arg
		35					40					45			
Gly	Leu	Ile	Gly	Lys	His	Ala	Met	Leu	Gly	Ser	Gly	Leu	Trp	Gly	Gly
	50					55					60				
Gly	Leu	Met	Val	Leu	Leu	Ala	Ala	Thr	Leu	Ile	Ser	Met	Thr	Gly	Ser
65					70					75				80	
Phe	Ser	Lys	Ser	Ala	Pro	Cys	Leu	Gln	Val	Leu	Ile	Ala	Leu	Leu	Ser
				85					90					95	
Ser	Gly	Leu	Ala	Leu	Leu	Gly	Ala	Val	Ile	Cys	Phe	Val	Thr	Ser	Gly
			100					105					110		
Val	Ala	Leu	Lys	Asp	Gly	Pro	Phe	Cys	Met	Phe	Asp	Val	Ser	Ser	Phe
		115					120					125			
Asn	Gln	Thr	Gln	Ala	Trp	Lys	Phe	Gly	Tyr	Pro	Phe	Lys	Asp	Leu	His
		130				135					140				
Asn	Arg	Asn	Tyr	Leu	Tyr	Asp	Arg	Ser	Leu	Trp	Thr	Ser	Val	Cys	Leu
145					150					155				160	

Glu Pro Ser Lys Ala Val Val Trp His Val Ala Phe Phe Ser Ile Leu
165 170 175

Leu Cys Ile Ser Leu Leu Gln Leu Leu Leu Val Ala Ile His Leu Val
180 185 190

Asn Ser Ile Leu Gly Leu Phe Cys Ser Phe Cys Glu Lys His
195 200 205

<210> 8
<211> 50
<212> PRT
<213> Mus musculus

<400> 8
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Gln Ala Trp Lys Phe Gly Tyr Pro Phe Lys Asp Leu His Asn Arg Asn
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Tyr Leu Tyr Asp Arg Ser Leu Trp Thr Ser Val Cys Leu Glu Pro Ser
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Lys Ala
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<210> 9
<211> 232
<212> PRT
<213> Artificial Sequence

<220>
<223> hIgG1-Fc

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Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
35 40 45

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
50 55 60

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln

65		70		75		80									
Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln
			85					90						95	
Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala
		100						105					110		
Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro
		115					120					125			
Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr
	130					135					140				
Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser
145					150					155					160
Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr
			165						170					175	
Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr
			180					185					190		
Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe
		195					200					205			
Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys
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Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys								
225					230										

<210> 10
 <211> 284
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Mouse TM4SF19(116-165)-Fc fusion protein

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Gln	Ala	Trp	Lys	Phe	Gly	Tyr	Pro	Phe	Lys	Asp	Leu	His	Asn	Arg	Asn
		20						25					30		
Tyr	Leu	Tyr	Asp	Arg	Ser	Leu	Trp	Thr	Ser	Val	Cys	Leu	Glu	Pro	Ser
		35					40					45			
Lys	Ala	Thr	Ser	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro
	50					55					60				

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
 65 70 75 80
 Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 85 90 95
 Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
 100 105 110
 Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
 115 120 125
 Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
 130 135 140
 Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
 145 150 155 160
 Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
 165 170 175
 Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
 180 185 190
 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
 195 200 205
 Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
 210 215 220
 Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 225 230 235 240
 Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
 245 250 255
 Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
 260 265 270
 Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 275 280

<210> 11

<211> 855

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotides encoding Mouse TM4SF19(116-165)-Fc fusion protein

<400> 11

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acctccgttt gcctggagcc ctctaaggct actagtgagc ccaaattcttg tgacaaaact	180
cacacatgcc caccgtgccc agcacctgaa ctcttggggg gaccgtcagt cttctcttcc	240
cccccaaac ccaaggacac cctcatgac tcctgggacc ctgaggtcac atgcgtggtg	300
gtggacgtga gccacgaaga ccctgaggtc aagttcaact ggtacgtgga cggcgtggag	360
gtgcataatg ccaagacaaa gccgcgggag gagcagtaca acagcacgta ccgtgtggtc	420
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tccaacaaag ccctcccagc ccccatcgag aaaaccatct ccaaagccaa agggcagccc	540
cgagaaccac aggtgtacac cctgccccca tcccgggatg agctgaccaa gaaccaggtc	600
agcctgacct gcctgggtcaa aggccttctat cccagcgaca tcgccgtgga gtgggagagc	660
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ttcttctct acagcaagct caccgtggac aagagcaggt ggcagcaggg gaacgtcttc	780
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<210> 12
 <211> 50
 <212> PRT
 <213> Homo sapiens

<400> 12
 Lys Asp Gly Pro Phe Cys Met Phe Asp Val Ser Ser Phe Asn Gln Thr
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 Gln Ala Trp Lys Tyr Gly Tyr Pro Phe Lys Asp Leu His Ser Arg Asn
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 Tyr Leu Tyr Asp Arg Ser Leu Trp Asn Ser Val Cys Leu Glu Pro Ser
 35 40 45
 Ala Ala
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<210> 13
 <211> 284
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Human TM4SF19(120-169)-Fc fusion protein

<400> 13

Lys Asp Gly Pro Phe Cys Met Phe Asp Val Ser Ser Phe Asn Gln Thr
1 5 10 15

Gln Ala Trp Lys Tyr Gly Tyr Pro Phe Lys Asp Leu His Ser Arg Asn
20 25 30

Tyr Leu Tyr Asp Arg Ser Leu Trp Asn Ser Val Cys Leu Glu Pro Ser
35 40 45

Ala Ala Thr Ser Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro
50 55 60

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
65 70 75 80

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
85 90 95

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
100 105 110

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
115 120 125

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
130 135 140

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
145 150 155 160

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
165 170 175

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
180 185 190

Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
195 200 205

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
210 215 220

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
225 230 235 240

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
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Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
260 265 270

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
275 280

<210> 14
<211> 855
<212> DNA
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<220>
<223> Nucleotides encoding Human TM4SF19(120-169)-Fc fusion protein

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aactccgtct gcctggagcc ctctgcagct actagtgcgc ccaaatcttg tgacaaaact 180
cacacatgcc caccgtgccc agcacctgaa ctctgagggg gaccgtcagt cttcctcttc 240
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ttcttcctct acagcaagct caccgtggac aagagcaggt ggcagcaggg gaacgtcttc 780
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tctccgggta aatga 855

<210> 15
<211> 25
<212> PRT
<213> Homo sapiens

<400> 15

Lys Asp Leu His Ser Arg Asn Tyr Leu Tyr Asp Arg Ser Leu Trp Asn
1 5 10 15

Ser Val Cys Leu Glu Pro Ser Ala Ala
20 25

<210> 16
<211> 259
<212> PRT
<213> Artificial Sequence

<220>
<223> Human TM4SF19(145-169)-Fc fusion protein

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20 25 30

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
35 40 45

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
50 55 60

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
65 70 75 80

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
85 90 95

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
100 105 110

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
115 120 125

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
130 135 140

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
145 150 155 160

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
180 185 190

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

195	200	205
Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val		
210	215	220
Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met		
225	230	235 240
His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser		
245	250	255
Pro Gly Lys		

<210> 17
 <211> 780
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Nucleotides encoding Human TM4SF19(145-169)-Fc fusion protein

<400> 17
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 gagccctctg cagctactag tgagcccaaa tcttgtgaca aaactcacac atgccaccg 120
 tgcccagcac ctgaactcct ggggggaccg tcagtcttcc tcttcccccc aaaacccaag 180
 gacaccctca tgatctcccg gaccctgag gtcacatgcg tgggtggtgga cgtgagccac 240
 gaagaccctg aggtcaagtt caactggtac gtggacggcg tggaggtgca taatgccaaag 300
 acaaagccgc gggaggagca gtacaacagc acgtaccgtg tggtcagcgt cctcaccgtc 360
 ctgaccagg actggctgaa tggcaaggag tacaagtgca aggtctccaa caaagccctc 420
 ccagccccca tcgagaaaac catctccaaa gccaaagggc agccccgaga accacaggtg 480
 tacaccctgc ccccatcccg ggatgagctg accaagaacc aggtcagcct gacctgcctg 540
 gtcaaaggct tctatcccag cgacatcgcc gtggagtggg agagcaatgg gcagccggag 600
 aacaactaca agaccacgcc tcccgtgctg gactccgacg gtccttctt cctctacagc 660
 aagctcaccg tggacaagag caggtggcag caggggaacg tcttctcatg ctccgtgatg 720
 catgaggctc tgcacaacca ctacacgcag aagagcctct ccctgtctcc gggtaaatga 780
 780

<210> 18
<211> 39
<212> PRT
<213> Homo sapiens

<400> 18
Ser Phe Asn Gln Thr Gln Ala Trp Lys Tyr Gly Tyr Pro Phe Lys Asp
1 5 10 15
Leu His Ser Arg Asn Tyr Leu Tyr Asp Arg Ser Leu Trp Asn Ser Val
20 25 30
Cys Leu Glu Pro Ser Ala Ala
35

<210> 19
<211> 273
<212> PRT
<213> Artificial Sequence

<220>
<223> Human TM4SF19(131-169)-Fc fusion protein

<400> 19
Ser Phe Asn Gln Thr Gln Ala Trp Lys Tyr Gly Tyr Pro Phe Lys Asp
1 5 10 15
Leu His Ser Arg Asn Tyr Leu Tyr Asp Arg Ser Leu Trp Asn Ser Val
20 25 30
Cys Leu Glu Pro Ser Ala Ala Thr Ser Glu Pro Lys Ser Cys Asp Lys
35 40 45
Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
50 55 60
Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
65 70 75 80
Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
85 90 95
Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
100 105 110
Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
115 120 125
Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
130 135 140
Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys

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

Lys

<210> 20
 <211> 822
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Nucleotides encoding Human TM4SF19(131-169)-Fc fusion protein

<400> 20	
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aattatctgt atgaccgttc gctctggaac tccgtctgcc tggagccctc tgcagctact	120
agtgagccca aatcttgtga caaaactcac acatgcccac cgtgcccagc acctgaactc	180
ctgggggggac cgtcagtcctt cctcttcccc caaaaccca aggacaccct catgatctcc	240
cggacccttg aggtcacatg cgtggtggtg gacgtgagcc acgaagacc tgaggtcaag	300
ttcaactggt acgtggacgg cgtggaggtg cataatgcca agacaaagcc gcgggaggag	360
cagtacaaca gcacgtaccg tgtggtcagc gtcctcaccg tcctgcacca ggactggctg	420
aatggcaagg agtacaagtg caaggtctcc aacaaagccc tcccagcccc catcgagaaa	480
accatctcca aagccaaagg gcagccccga gaaccacagg tgtacaccct gccccatcc	540

cgggatgagc tgaccaagaa ccaggtcagc ctgacctgcc tgggtcaaagg cttctatccc	600
agcgacatcg ccgtgggagtg ggagagcaat gggcagccgg agaacaacta caagaccacg	660
cctcccgtgc tggactccga cggctccttc ttctctaca gcaagctcac cgtggacaag	720
agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcatgaggc tctgcacaac	780
cactacacgc agaagagcct ctccctgtct ccgggtaaata ga	822

<210> 21
 <211> 61
 <212> PRT
 <213> Homo sapiens

<400> 21
 Ser Gly Val Ala Leu Lys Asp Gly Pro Phe Cys Met Phe Asp Val Ser
 1 5 10 15
 Ser Phe Asn Gln Thr Gln Ala Trp Lys Tyr Gly Tyr Pro Phe Lys Asp
 20 25 30
 Leu His Ser Arg Asn Tyr Leu Tyr Asp Arg Ser Leu Trp Asn Ser Val
 35 40 45
 Cys Leu Glu Pro Ser Ala Ala Val Val Trp His Val Ser
 50 55 60