

TDWG00201SequenceListing
SEQUENCE LISTING

<110> TDW Group

<120> ENGINEERED CHIMERIC PEGYLATED ADI AND METHODS OF USE

<130> TDWG-002/01W0

<150> US 61/954,929

<151> 2014-03-18

<160> 59

<170> PatentIn version 3.5

<210> 1

<211> 409

<212> PRT

<213> Mycoplasma hominis

<400> 1

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Lys Ile
50 55 60

Met Lys Asp Arg Gly Ile Asn Val Val Glu Leu Thr Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Lys Ala Ala Lys Glu Glu Phe Ile Glu
85 90 95

Thr Phe Leu Glu Glu Thr Val Pro Val Leu Thr Glu Ala Asn Lys Lys

TDWG00201SequenceListing

100

105

110

Ala Val Arg Ala Phe Leu Leu Ser Lys Pro Thr His Glu Met Val Glu
115 120 125

Phe Met Met Ser Gly Ile Thr Lys Tyr Glu Leu Gly Val Glu Ser Glu
130 135 140

Asn Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp
145 150 155 160

Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Phe Met Arg Tyr
165 170 175

Ile Val Arg Arg Arg Glu Thr Leu Phe Ala Arg Phe Val Phe Arg Asn
180 185 190

His Pro Lys Leu Val Lys Thr Pro Trp Tyr Tyr Asp Pro Ala Met Lys
195 200 205

Met Pro Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Glu Thr Leu
210 215 220

Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile Thr Leu Leu
225 230 235 240

Ala Lys Asn Ile Lys Ala Asn Lys Glu Val Glu Phe Lys Arg Ile Val
245 250 255

Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr Trp
260 265 270

Leu Thr Met Leu Asp Lys Asn Lys Phe Leu Tyr Ser Pro Ile Ala Asn
275 280 285

Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala Glu

TDWG00201SequenceListing

290

295

300

Pro Gln Pro Gln Leu Asn Gly Leu Pro Leu Asp Lys Leu Leu Ala Ser
305 310 315 320

Ile Ile Asn Lys Glu Pro Val Leu Ile Pro Ile Gly Gly Ala Gly Ala
325 330 335

Thr Glu Met Glu Ile Ala Arg Glu Thr Asn Phe Asp Gly Thr Asn Tyr
340 345 350

Leu Ala Ile Lys Pro Gly Leu Val Ile Gly Tyr Asp Arg Asn Glu Lys
355 360 365

Thr Asn Ala Ala Leu Lys Ala Ala Gly Ile Thr Val Leu Pro Phe His
370 375 380

Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser Met
385 390 395 400

Pro Leu Ser Arg Lys Asp Val Lys Trp
405

<210> 2

<211> 410

<212> PRT

<213> Mycoplasma arginini

<400> 2

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

TDWG00201SequenceListing

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Ile Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Gln Glu Ala Lys Asp Lys Leu Ile Glu
85 90 95

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Val
100 105 110

Val Val Arg Asn Phe Leu Lys Ala Lys Lys Thr Ser Arg Glu Leu Val
115 120 125

Glu Ile Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

TDWG00201SequenceListing

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 3

<211> 410

TDWG00201SequenceListing

<212> PRT

<213> Mycoplasma arthritidis

<400> 3

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Lys Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Glu Phe Val Ala Glu
50 55 60

Leu Lys Lys Arg Gly Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Lys Glu Ala Lys Glu Lys Leu Leu Glu
85 90 95

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala
100 105 110

Thr Val Lys Lys Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val
115 120 125

Glu Tyr Met Ile Ala Gly Ile Thr Lys His Asp Leu Lys Ile Glu Ser
130 135 140

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

TDWG00201SequenceListing

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

Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ala Glu
195 200 205

Gly Leu Thr Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Ile Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Asp
290 295 300

Ala Pro Gln Pro Val Asp Asn Gly Leu Pro Leu Glu Asp Leu Leu Lys
305 310 315 320

Ser Ile Ile Gly Lys Lys Pro Thr Leu Ile Pro Ile Ala Gly Ala Gly
325 330 335

Ala Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Val Ala Pro Gly Ile Val Ile Gly Tyr Ala Arg Asn Glu
355 360 365

TDWG00201SequenceListing

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe
370 375 380

Arg Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 4
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> DS1 recombinant chimeric ADI protein

<400> 4

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Lys Glu Ala Lys Glu Lys Leu Leu Glu
85 90 95

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala

TDWG00201SequenceListing

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Thr Val Lys Lys Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val
115 120 125

Glu Tyr Met Ile Ala Gly Ile Thr Lys His Asp Leu Lys Ile Glu Ser
130 135 140

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala

TDWG00201SequenceListing

290

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Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 5

<211> 409

<212> PRT

<213> Artificial Sequence

<220>

<223> DS2 recombinant chimeric ADI protein

<400> 5

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

TDWG00201SequenceListing

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Thr Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Arg Ala Ala Lys Glu Glu Phe Ile Glu
85 90 95

Thr Phe Leu Glu Glu Thr Val Pro Val Leu Thr Glu Ala Asn Arg Glu
100 105 110

Ala Val Arg Ala Phe Leu Leu Ser Lys Pro Thr His Glu Met Val Glu
115 120 125

Phe Met Met Ser Gly Ile Thr Lys Tyr Glu Leu Gly Val Glu Ser Glu
130 135 140

Asn Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp
145 150 155 160

Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg Tyr
165 170 175

Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Val Phe Ser Asn
180 185 190

His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu Lys
195 200 205

Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr Leu
210 215 220

TDWG00201SequenceListing

Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu Leu
225 230 235 240

Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile Val
245 250 255

Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr Trp
260 265 270

Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala Asn
275 280 285

Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala Glu
290 295 300

Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln Ser
305 310 315 320

Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly Ala
325 330 335

Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn Tyr
340 345 350

Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu Lys
355 360 365

Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe His
370 375 380

Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser Met
385 390 395 400

Pro Leu Ser Arg Lys Asp Val Lys Trp
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TDWG00201SequenceListing

<210> 6

<211> 410

<212> PRT

<213> Artificial Sequence

<220>

<223> DS3 recombinant chimeric ADI protein

<400> 6

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Lys Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Glu Phe Val Ala Glu
50 55 60

Leu Lys Lys Arg Gly Ile Asn Val Val Glu Leu Ile Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Gln Glu Ala Lys Asp Lys Leu Ile Glu
85 90 95

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Val
100 105 110

Val Val Arg Asn Phe Leu Lys Ala Lys Lys Thr Ser Arg Glu Leu Val
115 120 125

Glu Ile Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg

TDWG00201SequenceListing

145		150		155		160									
Asp	Pro	Phe	Ala	Ser	Val	Gly	Asn	Gly	Val	Thr	Ile	His	Tyr	Met	Arg
				165					170					175	
Tyr	Lys	Val	Arg	Gln	Arg	Glu	Thr	Leu	Phe	Ser	Arg	Phe	Val	Phe	Ser
			180					185					190		
Asn	His	Pro	Lys	Leu	Val	Asn	Thr	Pro	Trp	Tyr	Tyr	Asp	Pro	Ala	Glu
			195				200					205			
Gly	Leu	Thr	Ile	Glu	Gly	Gly	Asp	Val	Phe	Ile	Tyr	Asn	Asn	Asp	Thr
	210					215					220				
Leu	Val	Val	Gly	Val	Ser	Glu	Arg	Thr	Asp	Leu	Gln	Thr	Ile	Thr	Leu
225					230					235					240
Leu	Ala	Lys	Asn	Ile	Lys	Ala	Asn	Lys	Glu	Ser	Glu	Phe	Lys	Arg	Ile
			245						250					255	
Val	Ala	Ile	Asn	Val	Pro	Lys	Trp	Thr	Asn	Leu	Met	His	Leu	Asp	Thr
			260					265					270		
Trp	Leu	Thr	Met	Leu	Asp	Lys	Asp	Lys	Phe	Leu	Tyr	Ser	Pro	Ile	Ala
		275					280					285			
Asn	Asp	Val	Phe	Lys	Phe	Trp	Asp	Tyr	Asp	Leu	Val	Asn	Gly	Gly	Asp
	290					295					300				
Ala	Pro	Gln	Pro	Val	Asp	Asn	Gly	Leu	Pro	Leu	Glu	Asp	Leu	Leu	Lys
305					310					315					320
Ser	Ile	Ile	Gly	Lys	Lys	Pro	Thr	Leu	Ile	Pro	Ile	Ala	Gly	Ala	Gly
				325					330					335	
Ala	Ser	Gln	Ile	Asp	Ile	Glu	Arg	Glu	Thr	His	Phe	Asp	Gly	Thr	Asn

TDWG00201SequenceListing

340

345

350

Tyr Leu Ala Val Ala Pro Gly Ile Val Ile Gly Tyr Ala Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe
370 375 380

Arg Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 7

<211> 409

<212> PRT

<213> Artificial Sequence

<220>

<223> DS4 recombinant chimeric ADI protein

<400> 7

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Lys Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Glu Phe Val Ala Glu
50 55 60

Leu Lys Lys Arg Gly Ile Asn Val Val Glu Leu Thr Asp Leu Val Ala
65 70 75 80

TDWG00201SequenceListing

Glu Thr Tyr Asp Leu Ala Ser Arg Ala Ala Lys Glu Glu Phe Ile Glu
85 90 95

Thr Phe Leu Glu Glu Thr Val Pro Val Leu Thr Glu Ala Asn Arg Glu
100 105 110

Ala Val Arg Ala Phe Leu Leu Ser Lys Pro Thr His Glu Met Val Glu
115 120 125

Phe Met Met Ser Gly Ile Thr Lys Tyr Glu Leu Gly Val Glu Ser Glu
130 135 140

Asn Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp
145 150 155 160

Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg Tyr
165 170 175

Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Val Phe Ser Asn
180 185 190

His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ala Glu Gly
195 200 205

Leu Thr Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr Leu
210 215 220

Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Ile Thr Leu Leu
225 230 235 240

Ala Lys Asn Ile Lys Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile Val
245 250 255

Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr Trp
260 265 270

TDWG00201SequenceListing

Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala Asn
275 280 285

Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Asp Ala
290 295 300

Pro Gln Pro Val Asp Asn Gly Leu Pro Leu Glu Asp Leu Leu Lys Ser
305 310 315 320

Ile Ile Gly Lys Lys Pro Thr Leu Ile Pro Ile Ala Gly Ala Gly Ala
325 330 335

Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn Tyr
340 345 350

Leu Ala Val Ala Pro Gly Ile Val Ile Gly Tyr Ala Arg Asn Glu Lys
355 360 365

Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe Arg
370 375 380

Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser Met
385 390 395 400

Pro Leu Ser Arg Lys Asp Val Lys Trp
405

<210> 8

<211> 410

<212> PRT

<213> Artificial Sequence

<220>

<223> recombinant chimeric ADI derived from M. hominis (catalytic domain) and M. arginini (alpha-helical domain)

<400> 8

TDWG00201SequenceListing

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Ala Ile
50 55 60

Met Lys Asp Arg Gly Ile Asn Val Val Glu Leu Ile Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Gln Glu Ala Lys Asp Lys Leu Ile Glu
85 90 95

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Val
100 105 110

Val Val Arg Asn Phe Leu Lys Ala Lys Lys Thr Ser Arg Glu Leu Val
115 120 125

Glu Ile Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Phe Met Arg
165 170 175

Tyr Ile Val Arg Arg Arg Glu Thr Leu Phe Ala Arg Phe Val Phe Arg
180 185 190

TDWG00201SequenceListing

Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ala Met
195 200 205

Arg Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Glu Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Val Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asn Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Gln Leu Asn Gly Leu Pro Leu Asp Arg Leu Leu Ala
305 310 315 320

Ser Ile Ile Asn Lys Glu Pro Val Leu Ile Pro Ile Gly Gly Ala Gly
325 330 335

Ala Thr Glu Met Glu Ile Ala Arg Glu Thr Asn Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Leu Val Ile Gly Tyr Asp Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe
370 375 380

TDWG00201SequenceListing

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 9

<211> 410

<212> PRT

<213> Artificial Sequence

<220>

<223> recombinant chimeric ADI derived from M. hominis (catalytic domain) and M. arthritidis (alpha-helical domain)

<400> 9

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Ala Ile
50 55 60

Met Lys Asp Arg Gly Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Lys Glu Ala Lys Glu Lys Leu Leu Glu
85 90 95

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala
100 105 110

Thr Val Lys Lys Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val

TDWG00201SequenceListing

115

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Glu Tyr Met Ile Ala Gly Ile Thr Lys His Asp Leu Lys Ile Glu Ser
130 135 140

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Phe Met Arg
165 170 175

Tyr Ile Val Arg Arg Arg Glu Thr Leu Phe Ala Arg Phe Val Phe Arg
180 185 190

Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ala Met
195 200 205

Arg Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Glu Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Val Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asn Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Gln Leu Asn Gly Leu Pro Leu Asp Arg Leu Leu Ala

305 310 315 320

Ala Thr Glu Met Glu Ile Ala Arg Glu Thr Asn Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Leu Val Ile Gly Tyr Asp Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

$\langle 210 \rangle$	10
$\langle 211 \rangle$	410
$\langle 212 \rangle$	PRT
$\langle 213 \rangle$	Artificial Sequence

<220>
<223> DS1-1 lysine reduction mutant of the recombinant chimeric ADI protein

<400> 10

Met Ser Val Phe Asp Ser His Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

TDWG00201SequenceListing

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Arg Glu Ala Lys Glu Lys Leu Leu Glu
85 90 95

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala
100 105 110

Thr Val Lys Lys Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val
115 120 125

Glu Tyr Met Ile Ala Gly Ile Thr Arg His Asp Leu Lys Ile Glu Ser
130 135 140

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Arg Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

TDWG00201SequenceListing

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
 245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
 260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
 275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
 290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
 305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
 325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
 340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
 355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe
 370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
 385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
 405 410

<210> 11
 <211> 410

TDWG00201SequenceListing

<212> PRT

<213> Artificial Sequence

<220>

<223> DS1-2 lysine reduction mutant of the recombinant chimeric ADI protein

<400> 11

Met Ser Val Phe Asp Ser His Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Arg Glu Ala Lys Glu Lys Leu Leu Glu
85 90 95

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala
100 105 110

Thr Val Arg Asn Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val
115 120 125

Glu Tyr Met Ile Ala Gly Ile Thr Arg His Asp Leu Lys Ile Glu Ser
130 135 140

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

TDWG00201SequenceListing

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

Tyr Ile Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Val Phe Ser
180 185 190

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Arg Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

TDWG00201SequenceListing

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
 355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe
 370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
 385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
 405 410

<210> 12

<211> 410

<212> PRT

<213> Artificial Sequence

<220>

<223> DS1-3 lysine reduction mutant of the recombinant chimeric ADI
 protein

<400> 12

Met Ser Val Phe Asp Ser His Phe Asn Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Gln Phe Val Ala Glu
 50 55 60

Leu Arg Ala Asn Asp Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
 65 70 75 80

TDWG00201SequenceListing

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

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala
100 105 110

Thr Val Arg Asn Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val
115 120 125

Glu Tyr Met Ile Ala Gly Ile Thr Arg His Asp Leu Gly Ile Glu Ser
130 135 140

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

Tyr Ile Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Val Phe Ser
180 185 190

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Arg Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

TDWG00201SequenceListing

Trp Leu Thr Met Leu Asp Arg Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 13

<211> 410

<212> PRT

<213> Artificial Sequence

<220>

<223> DS1-4 lysine reduction mutant of the recombinant chimeric ADI
protein

<400> 13

Met Ser Val Phe Asp Ser His Phe Asn Gly Ile His Val Tyr Ser Glu

TDWG00201SequenceListing

1	5	10	15
Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile	20	25	30
Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile	35	40	45
Leu Glu Ser His Asp Ala Arg Thr Glu His Gln Gln Phe Val Ala Glu	50	55	60
Leu Arg Ala Asn Asp Ile Asn Val Val Glu Leu Val Asp Leu Ile Val	65	70	75
Glu Thr Tyr Asp Leu Ala Ser Arg Glu Ala Gln Glu Asn Leu Leu Glu	85	90	95
Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala	100	105	110
Thr Val Arg Asn Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val	115	120	125
Glu Tyr Met Ile Ala Gly Ile Thr Arg His Asp Leu Gly Ile Glu Ser	130	135	140
Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg	145	150	155
Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg	165	170	175
Tyr Ile Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Val Phe Ser	180	185	190
Asn His Pro Leu Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu			

TDWG00201SequenceListing

195

200

205

Arg Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Arg Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Arg Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Arg Arg Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Thr Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser

TDWG00201SequenceListing

385 390 395 400

Met Pro Leu Ser Arg Arg Asp Val Lys Trp
405 410

<210> 14
<211> 409
<212> PRT
<213> Artificial Sequence

<220>
<223> Mutated M. hominis ADI sequence

<400> 14

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Lys Ile
50 55 60

Met Lys Asp Arg Gly Ile Asn Val Val Glu Leu Thr Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Lys Ala Ala Lys Glu Glu Phe Ile Glu
85 90 95

Thr Phe Leu Glu Glu Thr Val Pro Val Leu Thr Glu Ala Asn Lys Glu
100 105 110

Ala Val Arg Ala Phe Leu Leu Ser Lys Pro Thr His Glu Met Val Glu
115 120 125

TDWG00201SequenceListing

Phe Met Met Ser Gly Ile Thr Lys Tyr Glu Leu Gly Val Glu Ser Glu
130 135 140

Asn Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp
145 150 155 160

Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Phe Met Arg Tyr
165 170 175

Ile Val Arg Arg Arg Glu Thr Leu Phe Ala Arg Phe Val Phe Arg Asn
180 185 190

His Pro Lys Leu Val Lys Thr Pro Trp Tyr Tyr Asp Pro Ala Met Lys
195 200 205

Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Glu Thr Leu
210 215 220

Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile Thr Leu Leu
225 230 235 240

Ala Lys Asn Ile Lys Ala Asn Lys Glu Val Glu Phe Lys Arg Ile Val
245 250 255

Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr Trp
260 265 270

Leu Thr Met Leu Asp Lys Asn Lys Phe Leu Tyr Ser Pro Ile Ala Asn
275 280 285

Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala Glu
290 295 300

Pro Gln Pro Gln Leu Asn Gly Leu Pro Leu Asp Lys Leu Leu Ala Ser
305 310 315 320

TDWG00201SequenceListing

Ile Ile Asn Lys Glu Pro Val Leu Ile Pro Ile Gly Gly Ala Gly Ala
325 330 335

Thr Glu Met Glu Ile Ala Arg Glu Thr Asn Phe Asp Gly Thr Asn Tyr
340 345 350

Leu Ala Ile Lys Pro Gly Leu Val Ile Gly Tyr Asp Arg Asn Glu Lys
355 360 365

Thr Asn Ala Ala Leu Lys Ala Ala Gly Ile Thr Val Leu Pro Phe His
370 375 380

Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser Met
385 390 395 400

Pro Leu Ser Arg Lys Asp Val Lys Trp
405

<210> 15

<211> 402

<212> PRT

<213> Mycoplasma alligatoris

<400> 15

Met Ser Lys Ile Asn Val Tyr Ser Glu Val Gly Arg Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Thr Arg
20 25 30

Leu Glu Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asp Thr Ala Ile
35 40 45

Glu Glu His Lys Arg Phe Leu Asn Val Leu Glu Lys Asn Gly Ile Lys
50 55 60

TDWG00201SequenceListing

Ala Ile Gln Leu Asp Glu Leu Val Ala Gln Thr Tyr Asp Gln Val Asp
65 70 75 80

Gln Lys Ile Lys Asp Glu Phe Ile Asp Gln Trp Leu Gln Glu Ala Lys
85 90 95

Pro Val Leu Asn Asp Gln Leu Lys Lys Leu Val Lys Asn Tyr Leu Leu
100 105 110

Lys Ser Gln Lys Glu Phe Ser Thr Lys Lys Met Val Arg Ile Met Met
115 120 125

Ala Gly Ile Asp Lys Lys Glu Ile Asn Ile Asp Leu Asp Arg Asp Leu
130 135 140

Val Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala
145 150 155 160

Ser Val Gly Asn Gly Ile Ser Leu His Asn Met Lys Tyr Gln Thr Arg
165 170 175

Lys Arg Glu Thr Ile Phe Ala Gln Phe Ile Phe Lys Tyr Asn Lys Asp
180 185 190

Tyr Lys Thr Thr Pro His Trp Phe Asp Arg Phe Asp His Gly Ser Ile
195 200 205

Glu Gly Gly Asp Val Phe Val Tyr Thr Lys Asp Thr Leu Val Ile Gly
210 215 220

Ile Ser Glu Arg Thr Thr Lys Glu Ala Val Leu Asn Ile Ala Lys Lys
225 230 235 240

Ile Lys Ala Asn Thr Asp Ser Lys Phe Lys Lys Ile Val Ala Ile Asn
245 250 255

TDWG00201SequenceListing

Val Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Ile Thr Met
260 265 270

Val Asp His Asp Lys Phe Leu Tyr Ser Pro Asn Met Met Lys Ser Leu
275 280 285

Lys Phe Trp Leu Ile Asp Leu Ser Lys Glu Ile Lys Met Val Glu Leu
290 295 300

Glu Glu Ser Leu Ser Asn Met Leu Glu Ala Ile Ile Gly Lys Lys Pro
305 310 315 320

Ile Leu Ile Pro Ile Ala Gly Lys Asn Ala Ser Gln Leu Asp Ile Asp
325 330 335

Ile Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly
340 345 350

Val Val Val Gly Tyr Ser Arg Asn Lys Leu Thr Gln Lys Ala Leu Glu
355 360 365

Asp Ala Gly Val Lys Val Leu Ser Phe Asp Gly Asn Gln Leu Ser Leu
370 375 380

Gly Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp
385 390 395 400

Ile Lys

<210> 16

<211> 401

<212> PRT

<213> Mycoplasma colombinum

<400> 16

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val

TDWG00201SequenceListing

1	5	10	15
Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg	20	25	30
Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile	35	40	45
Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys	50	55	60
Val Ile Gln Leu Ser Asp Leu Val Ala Glu Thr Tyr Thr Tyr His Ala	65	70	75
Thr Gln Lys Glu Arg Glu Ala Phe Ile Glu Lys Trp Leu Asp Glu Ala	85	90	95
Glu Pro Ala Leu Thr Lys Asp Leu Arg Ala Lys Val Lys Ser Tyr Val	100	105	110
Leu Ser Lys Glu Gly Thr Pro Val Ala Met Val Arg Thr Met Met Ala	115	120	125
Gly Val Ser Lys Gln Glu Leu Asn Val Glu Ser Glu Thr Glu Leu Val	130	135	140
Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser	145	150	155
Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg Lys	165	170	175
Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp Tyr	180	185	190
Lys Thr Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile Glu			

TDWG00201SequenceListing

195

200

205

Gly Gly Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

Ser Glu Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys Ile
225 230 235 240

Lys Asn Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn Val
245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
260 265 270

Asp Lys Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
275 280 285

Val Trp Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr Asn
290 295 300

Lys Pro Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro Val
305 310 315 320

Leu Ile Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp Ile
325 330 335

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
340 345 350

Val Val Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg Ala
355 360 365

Ala Gly Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
370 375 380

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val

TDWG00201SequenceListing

385 390 395 400

Lys

<210> 17
 <211> 401
 <212> PRT
 <213> Mycoplasma gallinarum

<400> 17

Met Ser Lys Ile Arg Val Tyr Ser Glu Ile Gly Asn Leu Lys Lys Val
 1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
 20 25 30

Leu Glu Glu Leu Leu Phe Ser Ala Val Leu Glu Pro Asn Ala Ala Ile
 35 40 45

Glu Glu His Lys Arg Phe Val Lys Leu Leu Glu Asp Arg Gly Ile Gln
 50 55 60

Ala Ile Gln Leu Ser Asp Leu Val Ala Glu Thr Tyr Val Lys Tyr Ala
 65 70 75 80

Thr Ala Glu Gln Lys Ala Ala Phe Ile Glu Lys Tyr Leu Asp Glu Ala
 85 90 95

Thr Pro Ala Leu Ser Ala Glu Asn Arg Glu Arg Ala Lys Lys Tyr Ile
 100 105 110

Leu Ser Leu Glu Met Gln Pro Val Lys Met Ile Arg Thr Met Met Ala
 115 120 125

Gly Leu Ser Lys Tyr Glu Leu Asn Val Glu Ser Asn Ile Glu Leu Ile
 130 135 140

TDWG00201SequenceListing

Ile Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser
145 150 155 160

Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Val Arg Lys
165 170 175

Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ala Ile His Pro Glu Tyr
180 185 190

Lys Glu Thr Pro His Trp Phe Asp Arg Leu Asp His Gly Ser Ile Glu
195 200 205

Gly Gly Asp Val Phe Val Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

Ser Glu Arg Thr Asn Lys Glu Ala Ile Ile Thr Ile Ala Lys His Ile
225 230 235 240

Gln Asp Asn Lys Glu Ala Glu Phe Lys Lys Ile Val Ala Ile Asn Val
245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
260 265 270

Asp Lys Asn Lys Phe Ile Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
275 280 285

Ile Trp Glu Ile Asp Leu Ala Lys Pro Ile Glu Met Val Glu Ser Asn
290 295 300

Lys Ser Leu Thr Glu Val Leu Glu Ser Ile Ile Gly Glu Lys Pro Ile
305 310 315 320

Leu Ile Pro Ile Ala Gly Glu Gly Ala Ser Gln Leu Asp Ile Asp Ile
325 330 335

TDWG00201SequenceListing

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
 340 345 350

Val Val Gly Tyr Ser Arg Asn Glu Lys Thr Glu Lys Ala Leu Lys Ala
 355 360 365

Ala Gly Ile Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
 370 375 380

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val
 385 390 395 400

Lys

<210> 18
 <211> 410
 <212> PRT
 <213> Mycoplasma gatea

<400> 18

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Leu Phe Val Ser Glu
 50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Thr Asp Leu Val Thr
 65 70 75 80

TDWG00201SequenceListing

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

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Thr Glu Glu Leu Lys Ser
100 105 110

Val Val Arg Thr Tyr Leu Lys Ser Ile Lys Ser Thr Arg Glu Leu Ile
115 120 125

Gln Met Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asn Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Cys Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

TDWG00201SequenceListing

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Glu
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Glu
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 19

<211> 401

<212> PRT

<213> Mycoplasma iners

<400> 19

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Val Leu Lys Glu Val
1 5 10 15

TDWG00201SequenceListing

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ala Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Ser Ala Ala Ile
35 40 45

Gln Glu His Lys Ser Phe Leu Lys Ile Leu Gln Asp Arg Gly Ile Lys
50 55 60

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

Ser Glu Ala Glu Lys Glu Ala Phe Ile Glu Lys Tyr Leu Asp Glu Ala
85 90 95

Thr Pro Val Leu Ser Lys Asp Met Arg Ala Lys Val Lys Asn Tyr Ile
100 105 110

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

Gly Val Ser Lys Gln Glu Leu Asn Val Glu Ser Glu Val Glu Leu Ile
130 135 140

Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser
145 150 155 160

Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Val Arg Lys
165 170 175

Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ser Ile His Pro Glu Tyr
180 185 190

Lys Lys Thr Pro His Trp Phe Asp Arg Leu Asp Asn Gly Ser Ile Glu
195 200 205

TDWG00201SequenceListing

Gly Gly Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

Ser Glu Arg Thr Asn Lys Glu Ala Ile Ile Thr Ile Ala Lys His Ile
225 230 235 240

Gln Asp Asn Lys Glu Ala Gln Phe Lys Lys Ile Val Ala Ile Asn Val
245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
260 265 270

Asp Lys Asn Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
275 280 285

Val Trp Glu Ile Asp Leu Ser Lys Pro Ile Glu Met Val Glu Thr Asn
290 295 300

Lys Pro Leu Ala Glu Val Leu Glu Ser Ile Ile Gly Glu Lys Pro Ile
305 310 315 320

Leu Ile Pro Ile Ala Gly Lys Asp Ala Thr Gln Leu Asp Ile Asp Ile
325 330 335

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
340 345 350

Val Val Gly Tyr Ser Arg Asn Val Lys Thr Glu Ala Ala Leu Arg Ala
355 360 365

Ala Gly Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
370 375 380

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val
385 390 395 400

TDWG00201SequenceListing

Lys

<210> 20
 <211> 410
 <212> PRT
 <213> Mycoplasma phocicerabrale
 <400> 20

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Lys Gln
 50 55 60

Leu Lys Asp Asn Gly Ile Asn Val Val Glu Leu Thr Asp Leu Val Ala
 65 70 75 80

Glu Thr Phe Asp Leu Ala Ser Lys Glu Glu Gln Glu Lys Leu Ile Glu
 85 90 95

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

Ala Val Arg Lys Phe Leu Thr Ser Arg Lys Ser Thr Arg Glu Met Val
 115 120 125

Glu Phe Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
 130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg

TDWG00201SequenceListing

145		150		155		160									
Asp	Pro	Phe	Ala	Ser	Val	Gly	Asn	Gly	Val	Thr	Ile	His	Tyr	Met	Arg
				165					170					175	
Tyr	Lys	Val	Arg	Gln	Arg	Glu	Thr	Leu	Phe	Ser	Arg	Phe	Val	Phe	Ser
			180					185					190		
Asn	His	Pro	Lys	Leu	Val	Lys	Thr	Pro	Trp	Tyr	Tyr	Asp	Pro	Ala	Met
			195				200					205			
Lys	Met	Ser	Ile	Glu	Gly	Gly	Asp	Val	Phe	Ile	Tyr	Asn	Asn	Asp	Thr
	210					215					220				
Leu	Val	Val	Gly	Val	Ser	Glu	Arg	Thr	Asp	Leu	Glu	Thr	Ile	Thr	Leu
225					230					235					240
Leu	Ala	Lys	Asn	Ile	Lys	Ala	Asn	Lys	Glu	Val	Glu	Phe	Lys	Arg	Ile
			245						250					255	
Val	Ala	Ile	Asn	Val	Pro	Lys	Trp	Thr	Asn	Leu	Met	His	Leu	Asp	Thr
			260					265					270		
Trp	Leu	Thr	Met	Leu	Asp	Lys	Asp	Lys	Phe	Leu	Tyr	Ser	Pro	Ile	Ala
		275					280					285			
Asn	Asp	Val	Phe	Lys	Phe	Trp	Asp	Tyr	Asp	Leu	Val	Asn	Gly	Gly	Ala
	290					295					300				
Glu	Pro	Gln	Pro	Lys	Glu	Asn	Gly	Leu	Pro	Leu	Glu	Gly	Leu	Leu	Gln
305					310					315					320
Ser	Ile	Ile	Asn	Lys	Lys	Pro	Val	Leu	Ile	Pro	Ile	Ala	Gly	Asn	Asn
			325					330						335	
Ala	Ser	His	Ile	Asp	Ile	Glu	Arg	Glu	Thr	His	Phe	Asp	Gly	Thr	Asn

TDWG00201SequenceListing

340

345

350

Tyr Leu Ala Ile Lys Pro Gly Val Val Ile Gly Tyr Ala Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 21
<211> 410
<212> PRT
<213> Mycoplasma phocidae

<400> 21

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Gln Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Glu Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Glu Phe Val Ala Glu
50 55 60

Leu Lys Lys Asn Asn Ile Asn Val Val Glu Leu Thr Asp Leu Val Ser
65 70 75 80

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

TDWG00201SequenceListing

Glu	Phe	Leu	Glu	Asp	Ser	Glu	Pro	Val	Leu	Ser	Glu	Glu	His	Lys	Gly	100	105	110	
Leu	Val	Arg	Lys	Phe	Leu	Lys	Ser	Leu	Lys	Ser	Ser	Lys	Glu	Leu	Ile	115	120	125	
Gln	Tyr	Met	Met	Ala	Gly	Ile	Thr	Lys	His	Asp	Leu	Asn	Ile	Glu	Ala	130	135	140	
Asp	His	Glu	Leu	Ile	Val	Asp	Pro	Met	Pro	Asn	Leu	Tyr	Phe	Thr	Arg	145	150	155	160
Asp	Pro	Phe	Ala	Ser	Val	Gly	Asn	Gly	Val	Thr	Ile	His	Tyr	Met	Arg	165	170	175	
Tyr	Lys	Val	Arg	Gln	Arg	Glu	Thr	Leu	Phe	Ser	Arg	Phe	Ile	Phe	Ala	180	185	190	
Asn	His	Pro	Lys	Leu	Met	Asn	Thr	Pro	Leu	Tyr	Tyr	Asn	Pro	Asp	Met	195	200	205	
Lys	Leu	Ser	Ile	Glu	Gly	Gly	Asp	Val	Phe	Val	Tyr	Asn	Asn	Glu	Thr	210	215	220	
Leu	Val	Val	Gly	Val	Ser	Glu	Arg	Thr	Asp	Leu	Asp	Thr	Ile	Thr	Leu	225	230	235	240
Leu	Ala	Lys	Asn	Ile	Lys	Ala	Asn	Lys	Glu	Arg	Glu	Phe	Lys	Arg	Ile	245	250	255	
Val	Ala	Ile	Asn	Val	Pro	Lys	Trp	Thr	Asn	Leu	Met	His	Leu	Asp	Thr	260	265	270	
Trp	Leu	Thr	Met	Leu	Asp	Lys	Asp	Lys	Phe	Leu	Tyr	Ser	Pro	Ile	Ala	275	280	285	

TDWG00201SequenceListing

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Asp
290 295 300

Glu Pro Gln Pro Lys Val Asn Gly Leu Pro Leu Glu Lys Leu Leu Glu
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Thr Ser
325 330 335

Ala Ser Asn Ile Asp Val Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Ala Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Val
355 360 365

Lys Thr Asn Glu Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

Lys Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 22
<211> 413
<212> PRT
<213> Artificial Sequence

<220>
<223> C2DS1 recombinant chimeric ADI protein

<400> 22

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

TDWG00201SequenceListing

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Asp Glu Leu Val Ala
65 70 75 80

Gln Thr Tyr Asp Gln Val Asp Gln Lys Ile Lys Asp Glu Phe Ile Asp
85 90 95

Gln Trp Leu Gln Glu Ala Lys Pro Val Leu Asn Asp Gln Leu Lys Lys
100 105 110

Leu Val Lys Asn Tyr Leu Leu Lys Ser Gln Lys Glu Phe Ser Thr Lys
115 120 125

Lys Met Val Arg Ile Met Met Ala Gly Ile Asp Lys Lys Glu Ile Asn
130 135 140

Ile Asp Leu Asp Arg Asp Leu Val Val Asp Pro Met Pro Asn Leu Tyr
145 150 155 160

Phe Thr Arg Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His
165 170 175

Tyr Met Arg Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe
180 185 190

Val Phe Ser Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp
195 200 205

TDWG00201SequenceListing

Pro Ser Leu Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn
210 215 220

Asn Asp Thr Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr
225 230 235 240

Val Thr Leu Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe
245 250 255

Lys Arg Ile Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His
260 265 270

Leu Asp Thr Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser
275 280 285

Pro Ile Ala Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn
290 295 300

Gly Gly Ala Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly
305 310 315 320

Leu Leu Gln Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala
325 330 335

Gly Glu Gly Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp
340 345 350

Gly Thr Asn Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser
355 360 365

Arg Asn Glu Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val
370 375 380

Leu Pro Phe His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg
385 390 395 400

TDWG00201SequenceListing

Cys Met Ser Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 23
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C2DS3 recombinant chimeric ADI protein

<400> 23

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Lys Glu Ala Lys Glu Lys Leu Leu Glu
85 90 95

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala
100 105 110

Thr Val Lys Lys Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val
115 120 125

Glu Tyr Met Ile Ala Gly Ile Thr Lys His Asp Leu Lys Ile Glu Ser
130 135 140

TDWG00201SequenceListing

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

TDWG00201SequenceListing

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
 340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
 355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
 370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
 385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
 405 410

<210> 24
 <211> 412
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C2DS4 recombinant chimeric ADI protein

<400> 24

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
 50 55 60

TDWG00201SequenceListing

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Ser Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Thr Tyr His Ala Thr Gln Lys Glu Arg Glu Ala Phe Ile
85 90 95

Glu Lys Trp Leu Asp Glu Ala Glu Pro Ala Leu Thr Lys Asp Leu Arg
100 105 110

Ala Lys Val Lys Ser Tyr Val Leu Ser Lys Glu Gly Thr Pro Val Ala
115 120 125

Met Val Arg Thr Met Met Ala Gly Val Ser Lys Gln Glu Leu Asn Val
130 135 140

Glu Ser Glu Thr Glu Leu Val Val Asp Pro Met Pro Asn Leu Tyr Phe
145 150 155 160

Thr Arg Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr
165 170 175

Met Arg Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Val
180 185 190

Phe Ser Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro
195 200 205

Ser Leu Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn
210 215 220

Asp Thr Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val
225 230 235 240

Thr Leu Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys
245 250 255

TDWG00201SequenceListing

Arg Ile Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu
260 265 270

Asp Thr Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro
275 280 285

Ile Ala Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly
290 295 300

Gly Ala Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu
305 310 315 320

Leu Gln Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly
325 330 335

Glu Gly Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly
340 345 350

Thr Asn Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg
355 360 365

Asn Glu Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu
370 375 380

Pro Phe His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys
385 390 395 400

Met Ser Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 25
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C2DS5 recombinant chimeric ADI protein

TDWG00201SequenceListing

<400> 25

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Thr Asp Leu Val Thr
65 70 75 80

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

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Thr Glu Glu Leu Lys Ser
100 105 110

Val Val Arg Thr Tyr Leu Lys Ser Ile Lys Ser Thr Arg Glu Leu Ile
115 120 125

Gln Met Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

TDWG00201SequenceListing

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

TDWG00201SequenceListing

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 26
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C2DS6 recombinant chimeric ADI protein

<400> 26

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Thr Asp Leu Val Ala
65 70 75 80

Glu Thr Phe Asp Leu Ala Ser Lys Glu Glu Gln Glu Lys Leu Ile Glu
85 90 95

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

TDWG00201SequenceListing

Ala Val Arg Lys Phe Leu Thr Ser Arg Lys Ser Thr Arg Glu Met Val
115 120 125

Glu Phe Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

TDWG00201SequenceListing

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 27
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C2DS7 recombinant chimeric ADI protein

<400> 27

Met Ser Val Phe Asp Ser Lys Phe Lys Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

TDWG00201SequenceListing

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Gln Phe Val Ala Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Thr Asp Leu Val Ser
65 70 75 80

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

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Gly
100 105 110

Leu Val Arg Lys Phe Leu Lys Ser Leu Lys Ser Ser Lys Glu Leu Ile
115 120 125

Gln Tyr Met Met Ala Gly Ile Thr Lys His Asp Leu Asn Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Ile Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Gln Thr Val Thr Leu
225 230 235 240

TDWG00201SequenceListing

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Ser Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Met Glu Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 28
<211> 402

TDWG00201SequenceListing

<212> PRT

<213> Artificial Sequence

<220>

<223> C4DS1 recombinant chimeric ADI protein

<400> 28

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile
35 40 45

Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys
50 55 60

Val Ile Gln Leu Asp Glu Leu Val Ala Gln Thr Tyr Asp Gln Val Asp
65 70 75 80

Gln Lys Ile Lys Asp Glu Phe Ile Asp Gln Trp Leu Gln Glu Ala Lys
85 90 95

Pro Val Leu Asn Asp Gln Leu Lys Lys Leu Val Lys Asn Tyr Leu Leu
100 105 110

Lys Ser Gln Lys Glu Phe Ser Thr Lys Lys Met Val Arg Ile Met Met
115 120 125

Ala Gly Ile Asp Lys Lys Glu Ile Asn Ile Asp Leu Asp Arg Asp Leu
130 135 140

Val Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala
145 150 155 160

TDWG00201SequenceListing

Ser Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg
165 170 175

Lys Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp
180 185 190

Tyr Lys Thr Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile
195 200 205

Glu Gly Gly Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly
210 215 220

Val Ser Glu Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys
225 230 235 240

Ile Lys Asn Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn
245 250 255

Val Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met
260 265 270

Val Asp Lys Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu
275 280 285

Lys Val Trp Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr
290 295 300

Asn Lys Pro Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro
305 310 315 320

Val Leu Ile Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp
325 330 335

Ile Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly
340 345 350

TDWG00201SequenceListing

Val Val Val Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg
355 360 365

Ala Ala Gly Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu
370 375 380

Gly Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp
385 390 395 400

Val Lys

<210> 29
<211> 399
<212> PRT
<213> Artificial Sequence

<220>
<223> C4DS2 recombinant chimeric ADI protein

<400> 29

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile
35 40 45

Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys
50 55 60

Val Ile Gln Leu Ile Asp Leu Val Ala Glu Thr Tyr Asp Leu Ala Ser
65 70 75 80

Gln Glu Ala Lys Asp Lys Leu Ile Glu Glu Phe Leu Glu Asp Ser Glu
85 90 95

TDWG00201SequenceListing

Pro Val Leu Ser Glu Glu His Lys Val Val Val Arg Asn Phe Leu Lys
100 105 110

Ala Lys Lys Thr Ser Arg Glu Leu Val Glu Ile Met Met Ala Gly Ile
115 120 125

Thr Lys Tyr Asp Leu Gly Ile Glu Ala Asp His Glu Leu Ile Val Asp
130 135 140

Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser Ala Gly
145 150 155 160

Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg Lys Arg Glu
165 170 175

Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp Tyr Lys Thr
180 185 190

Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile Glu Gly Gly
195 200 205

Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val Ser Glu
210 215 220

Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys Ile Lys Asn
225 230 235 240

Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn Val Pro Pro
245 250 255

Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val Asp Lys
260 265 270

Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys Val Trp
275 280 285

TDWG00201SequenceListing

Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr Asn Lys Pro
290 295 300

Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro Val Leu Ile
305 310 315 320

Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp Ile Glu Thr
325 330 335

His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val Val Val
340 345 350

Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg Ala Ala Gly
355 360 365

Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly Met Gly
370 375 380

Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val Lys
385 390 395

<210> 30
<211> 399
<212> PRT
<213> Artificial Sequence

<220>
<223> C4DS3 recombinant chimeric ADI protein

<400> 30

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

TDWG00201SequenceListing

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile
35 40 45

Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys
50 55 60

Val Ile Gln Leu Val Asp Leu Ile Val Glu Thr Tyr Asp Leu Ala Ser
65 70 75 80

Lys Glu Ala Lys Glu Lys Leu Leu Glu Glu Phe Leu Asp Asp Ser Val
85 90 95

Pro Val Leu Ser Asp Glu His Arg Ala Thr Val Lys Lys Phe Leu Gln
100 105 110

Ser Gln Lys Ser Thr Arg Ser Leu Val Glu Tyr Met Ile Ala Gly Ile
115 120 125

Thr Lys His Asp Leu Lys Ile Glu Ser Asp Leu Glu Leu Ile Val Asp
130 135 140

Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser Ala Gly
145 150 155 160

Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg Lys Arg Glu
165 170 175

Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp Tyr Lys Thr
180 185 190

Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile Glu Gly Gly
195 200 205

Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val Ser Glu
210 215 220

TDWG00201SequenceListing

Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys Ile Lys Asn
225 230 235 240

Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn Val Pro Pro
245 250 255

Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val Asp Lys
260 265 270

Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys Val Trp
275 280 285

Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr Asn Lys Pro
290 295 300

Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro Val Leu Ile
305 310 315 320

Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp Ile Glu Thr
325 330 335

His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val Val Val
340 345 350

Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg Ala Ala Gly
355 360 365

Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly Met Gly
370 375 380

Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val Lys
385 390 395

<210> 31
<211> 399
<212> PRT
<213> Artificial Sequence

TDWG00201SequenceListing

<220>

<223> C4DS5 recombinant chimeric ADI protein

<400> 31

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile
35 40 45

Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys
50 55 60

Val Ile Gln Leu Thr Asp Leu Val Thr Glu Thr Tyr Asp Leu Ala Ser
65 70 75 80

Gln Glu Ala Lys Asp Asn Leu Ile Glu Glu Phe Leu Glu Asp Ser Glu
85 90 95

Pro Val Leu Thr Glu Glu Leu Lys Ser Val Val Arg Thr Tyr Leu Lys
100 105 110

Ser Ile Lys Ser Thr Arg Glu Leu Ile Gln Met Met Met Ala Gly Ile
115 120 125

Thr Lys Tyr Asp Leu Gly Ile Glu Ala Asp His Glu Leu Ile Val Asp
130 135 140

Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser Ala Gly
145 150 155 160

Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg Lys Arg Glu
165 170 175

TDWG00201SequenceListing

Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp Tyr Lys Thr
180 185 190

Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile Glu Gly Gly
195 200 205

Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val Ser Glu
210 215 220

Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys Ile Lys Asn
225 230 235 240

Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn Val Pro Pro
245 250 255

Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val Asp Lys
260 265 270

Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys Val Trp
275 280 285

Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr Asn Lys Pro
290 295 300

Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro Val Leu Ile
305 310 315 320

Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp Ile Glu Thr
325 330 335

His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val Val Val
340 345 350

Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg Ala Ala Gly
355 360 365

TDWG00201SequenceListing

Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly Met Gly
370 375 380

Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val Lys
385 390 395

<210> 32
<211> 399
<212> PRT
<213> Artificial Sequence

<220>
<223> C4DS6 recombinant chimeric ADI protein

<400> 32

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile
35 40 45

Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys
50 55 60

Val Ile Gln Leu Thr Asp Leu Val Ala Glu Thr Phe Asp Leu Ala Ser
65 70 75 80

Lys Glu Glu Gln Glu Lys Leu Ile Glu Glu Phe Leu Glu Asp Ser Glu
85 90 95

Pro Val Leu Ser Glu Ala His Lys Thr Ala Val Arg Lys Phe Leu Thr
100 105 110

TDWG00201SequenceListing

Ser Arg Lys Ser Thr Arg Glu Met Val Glu Phe Met Met Ala Gly Ile
 115 120 125

Thr Lys Tyr Asp Leu Gly Ile Glu Ala Asp His Glu Leu Ile Val Asp
 130 135 140

Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser Ala Gly
 145 150 155 160

Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg Lys Arg Glu
 165 170 175

Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp Tyr Lys Thr
 180 185 190

Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile Glu Gly Gly
 195 200 205

Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val Ser Glu
 210 215 220

Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys Ile Lys Asn
 225 230 235 240

Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn Val Pro Pro
 245 250 255

Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val Asp Lys
 260 265 270

Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys Val Trp
 275 280 285

Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr Asn Lys Pro
 290 295 300

TDWG00201SequenceListing

Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro Val Leu Ile
305 310 315 320

Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp Ile Glu Thr
325 330 335

His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val Val Val
340 345 350

Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg Ala Ala Gly
355 360 365

Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly Met Gly
370 375 380

Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val Lys
385 390 395

<210> 33
<211> 399
<212> PRT
<213> Artificial Sequence

<220>
<223> C4DS7 recombinant chimeric ADI protein

<400> 33

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile
35 40 45

Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys
50 55 60

TDWG00201SequenceListing

Val Ile Gln Leu Thr Asp Leu Val Ser Glu Thr Tyr Asp Met Val Ser
65 70 75 80

Lys Glu Lys Gln Glu Lys Leu Ile Glu Glu Phe Leu Glu Asp Ser Glu
85 90 95

Pro Val Leu Ser Glu Glu His Lys Gly Leu Val Arg Lys Phe Leu Lys
100 105 110

Ser Leu Lys Ser Ser Lys Glu Leu Ile Gln Tyr Met Met Ala Gly Ile
115 120 125

Thr Lys His Asp Leu Asn Ile Glu Ala Asp His Glu Leu Ile Val Asp
130 135 140

Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser Ala Gly
145 150 155 160

Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg Lys Arg Glu
165 170 175

Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp Tyr Lys Thr
180 185 190

Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile Glu Gly Gly
195 200 205

Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val Ser Glu
210 215 220

Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys Ile Lys Asn
225 230 235 240

Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn Val Pro Pro
245 250 255

TDWG00201SequenceListing

Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val Asp Lys
260 265 270

Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys Val Trp
275 280 285

Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr Asn Lys Pro
290 295 300

Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro Val Leu Ile
305 310 315 320

Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp Ile Glu Thr
325 330 335

His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val Val Val
340 345 350

Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg Ala Ala Gly
355 360 365

Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly Met Gly
370 375 380

Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val Lys
385 390 395

<210> 34
<211> 401
<212> PRT
<213> Artificial Sequence

<220>
<223> C4DS8 recombinant chimeric ADI protein

<400> 34

TDWG00201SequenceListing

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile
35 40 45

Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys
50 55 60

Val Ile Gln Leu Ser Asp Leu Val Ala Glu Thr Tyr Val Lys Tyr Ala
65 70 75 80

Thr Ala Glu Gln Lys Ala Ala Phe Ile Glu Lys Tyr Leu Asp Glu Ala
85 90 95

Thr Pro Ala Leu Ser Ala Glu Asn Arg Glu Arg Ala Lys Lys Tyr Ile
100 105 110

Leu Ser Leu Glu Met Gln Pro Val Lys Met Ile Arg Thr Met Met Ala
115 120 125

Gly Leu Ser Lys Tyr Glu Leu Asn Val Glu Ser Asn Ile Glu Leu Ile
130 135 140

Ile Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser
145 150 155 160

Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg Lys
165 170 175

Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp Tyr
180 185 190

TDWG00201SequenceListing

Lys Thr Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile Glu
195 200 205

Gly Gly Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

Ser Glu Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys Ile
225 230 235 240

Lys Asn Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn Val
245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
260 265 270

Asp Lys Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
275 280 285

Val Trp Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr Asn
290 295 300

Lys Pro Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro Val
305 310 315 320

Leu Ile Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp Ile
325 330 335

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
340 345 350

Val Val Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg Ala
355 360 365

Ala Gly Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
370 375 380

TDWG00201SequenceListing

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val
385 390 395 400

Lys

<210> 35
<211> 401
<212> PRT
<213> Artificial Sequence

<220>
<223> C4DS9 recombinant chimeric ADI protein

<400> 35

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Glu Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Asn Glu Ala Ile
35 40 45

Lys Glu His Lys Gly Phe Leu Lys Ile Leu Gln Asp Lys Gly Ile Lys
50 55 60

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

Ser Glu Ala Glu Lys Glu Ala Phe Ile Glu Lys Tyr Leu Asp Glu Ala
85 90 95

Thr Pro Val Leu Ser Lys Asp Met Arg Ala Lys Val Lys Asn Tyr Ile
100 105 110

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

TDWG00201SequenceListing

Gly Val Ser Lys Gln Glu Leu Asn Val Glu Ser Glu Val Glu Leu Ile
130 135 140

Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser
145 150 155 160

Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Thr Arg Lys
165 170 175

Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ala Thr His Pro Asp Tyr
180 185 190

Lys Thr Thr Pro His Trp Phe Asp Arg Leu Asp Glu Gly Asn Ile Glu
195 200 205

Gly Gly Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

Ser Glu Arg Thr Asn Lys Glu Ala Ile Leu Thr Ile Ala Lys Lys Ile
225 230 235 240

Lys Asn Asn Lys Glu Ala Lys Phe Lys Lys Ile Val Ala Ile Asn Val
245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
260 265 270

Asp Lys Asp Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
275 280 285

Val Trp Glu Ile Asp Leu Ser Lys Glu Ile Glu Met Val Glu Thr Asn
290 295 300

Lys Pro Leu Ala Asp Val Leu Glu Ser Ile Ile Gly Val Lys Pro Val
305 310 315 320

TDWG00201SequenceListing

Leu Ile Pro Ile Ala Gly Lys Gly Ala Thr Gln Leu Asp Ile Asp Ile
 325 330 335

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
 340 345 350

Val Val Gly Tyr Ser Arg Asn Ile Lys Thr Glu Ala Ala Leu Arg Ala
 355 360 365

Ala Gly Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
 370 375 380

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val
 385 390 395 400

Lys

<210> 36
 <211> 413
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C5DS1 recombinant chimeric ADI protein

<400> 36

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

TDWG00201SequenceListing

Leu	Glu	Ser	His	Asp	Ala	Arg	Lys	Glu	His	Lys	Leu	Phe	Val	Ser	Glu
50						55					60				
Leu	Lys	Ala	Asn	Asp	Ile	Asn	Val	Val	Glu	Leu	Asp	Glu	Leu	Val	Ala
65					70				75						80
Gln	Thr	Tyr	Asp	Gln	Val	Asp	Gln	Lys	Ile	Lys	Asp	Glu	Phe	Ile	Asp
			85						90					95	
Gln	Trp	Leu	Gln	Glu	Ala	Lys	Pro	Val	Leu	Asn	Asp	Gln	Leu	Lys	Lys
			100					105					110		
Leu	Val	Lys	Asn	Tyr	Leu	Leu	Lys	Ser	Gln	Lys	Glu	Phe	Ser	Thr	Lys
		115					120					125			
Lys	Met	Val	Arg	Ile	Met	Met	Ala	Gly	Ile	Asp	Lys	Lys	Glu	Ile	Asn
	130					135					140				
Ile	Asp	Leu	Asp	Arg	Asp	Leu	Val	Val	Asp	Pro	Met	Pro	Asn	Leu	Tyr
145					150					155					160
Phe	Thr	Arg	Asp	Pro	Phe	Ala	Ser	Val	Gly	Asn	Gly	Val	Thr	Ile	His
			165						170					175	
Tyr	Met	Arg	Tyr	Lys	Val	Arg	Gln	Arg	Glu	Thr	Leu	Phe	Ser	Arg	Phe
			180					185					190		
Val	Phe	Ser	Asn	His	Pro	Lys	Leu	Val	Asn	Thr	Pro	Trp	Tyr	Tyr	Asp
		195					200					205			
Pro	Ser	Leu	Lys	Leu	Ser	Ile	Glu	Gly	Gly	Asp	Val	Phe	Ile	Tyr	Asn
	210					215					220				
Asn	Asn	Thr	Leu	Val	Val	Gly	Val	Ser	Glu	Arg	Thr	Asp	Leu	Glu	Thr
225					230					235					240

TDWG00201SequenceListing

Val Thr Leu Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Cys Glu Phe
245 250 255

Lys Arg Ile Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His
260 265 270

Leu Asp Thr Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser
275 280 285

Pro Ile Ala Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn
290 295 300

Gly Gly Glu Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly
305 310 315 320

Leu Leu Glu Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala
325 330 335

Gly Glu Gly Ala Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp
340 345 350

Gly Thr Asn Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser
355 360 365

Arg Asn Glu Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val
370 375 380

Leu Pro Phe His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg
385 390 395 400

Cys Met Ser Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 37

<211> 410

<212> PRT

<213> Artificial Sequence

TDWG00201SequenceListing

<220>

<223> C5DS2 recombinant chimeric ADI protein

<400> 37

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Leu Phe Val Ser Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Ile Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Gln Glu Ala Lys Asp Lys Leu Ile Glu
85 90 95

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Val
100 105 110

Val Val Arg Asn Phe Leu Lys Ala Lys Lys Thr Ser Arg Glu Leu Val
115 120 125

Glu Ile Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

TDWG00201SequenceListing

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

Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asn Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Cys Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Glu
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Glu
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

TDWG00201SequenceListing

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 38
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C5DS3 recombinant chimeric ADI protein

<400> 38

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Leu Phe Val Ser Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Lys Glu Ala Lys Glu Lys Leu Leu Glu
85 90 95

TDWG00201SequenceListing

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala
100 105 110

Thr Val Lys Lys Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val
115 120 125

Glu Tyr Met Ile Ala Gly Ile Thr Lys His Asp Leu Lys Ile Glu Ser
130 135 140

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asn Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Cys Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

TDWG00201SequenceListing

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Glu
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Glu
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

Ala Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 39

<211> 412

<212> PRT

<213> Artificial Sequence

<220>

<223> C5DS4 recombinant chimeric ADI protein

<400> 39

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

TDWG00201SequenceListing

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Leu Phe Val Ser Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Ser Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Thr Tyr His Ala Thr Gln Lys Glu Arg Glu Ala Phe Ile
85 90 95

Glu Lys Trp Leu Asp Glu Ala Glu Pro Ala Leu Thr Lys Asp Leu Arg
100 105 110

Ala Lys Val Lys Ser Tyr Val Leu Ser Lys Glu Gly Thr Pro Val Ala
115 120 125

Met Val Arg Thr Met Met Ala Gly Val Ser Lys Gln Glu Leu Asn Val
130 135 140

Glu Ser Glu Thr Glu Leu Val Val Asp Pro Met Pro Asn Leu Tyr Phe
145 150 155 160

Thr Arg Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr
165 170 175

Met Arg Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Val
180 185 190

Phe Ser Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro
195 200 205

Ser Leu Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn
210 215 220

TDWG00201SequenceListing

Asn Thr Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Val
225 230 235 240

Thr Leu Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Cys Glu Phe Lys
245 250 255

Arg Ile Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu
260 265 270

Asp Thr Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro
275 280 285

Ile Ala Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly
290 295 300

Gly Glu Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu
305 310 315 320

Leu Glu Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly
325 330 335

Glu Gly Ala Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly
340 345 350

Thr Asn Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg
355 360 365

Asn Glu Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu
370 375 380

Pro Phe His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys
385 390 395 400

Met Ser Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

TDWG00201SequenceListing

<210> 40
 <211> 410
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C5DS6 recombinant chimeric ADI protein

<400> 40

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Leu Phe Val Ser Glu
 50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Thr Asp Leu Val Ala
 65 70 75 80

Glu Thr Phe Asp Leu Ala Ser Lys Glu Glu Gln Glu Lys Leu Ile Glu
 85 90 95

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

Ala Val Arg Lys Phe Leu Thr Ser Arg Lys Ser Thr Arg Glu Met Val
 115 120 125

Glu Phe Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
 130 135 140

TDWG00201SequenceListing

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asn Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Cys Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Glu
290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Glu
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Glu Gly
325 330 335

TDWG00201SequenceListing

Ala Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 41
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C5DS7 recombinant chimeric ADI protein

<400> 41

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Ser Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Lys Leu Phe Val Ser Glu
50 55 60

Leu Lys Ala Asn Asp Ile Asn Val Val Glu Leu Thr Asp Leu Val Ser
65 70 75 80

TDWG00201SequenceListing

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

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Gly
100 105 110

Leu Val Arg Lys Phe Leu Lys Ser Leu Lys Ser Ser Lys Glu Leu Ile
115 120 125

Gln Tyr Met Met Ala Gly Ile Thr Lys His Asp Leu Asn Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Val Asn Thr Pro Trp Tyr Tyr Asp Pro Ser Leu
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asn Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Val Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Val Ala Asn Lys Glu Cys Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

TDWG00201SequenceListing

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
 275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Glu
 290 295 300

Glu Pro Gln Pro Val Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Glu
 305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Glu Gly
 325 330 335

Ala Ser Gln Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
 340 345 350

Tyr Leu Ala Ile Arg Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Glu
 355 360 365

Lys Thr Asn Ala Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
 370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
 385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
 405 410

<210> 42
 <211> 413
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C6DS1 recombinant chimeric ADI protein

<400> 42

TDWG00201SequenceListing

Met	Ser	Val	Phe	Asp	Ser	Lys	Phe	Asn	Gly	Ile	His	Val	Tyr	Ser	Glu
1				5					10					15	
Ile	Gly	Glu	Leu	Glu	Thr	Val	Leu	Val	His	Glu	Pro	Gly	Arg	Glu	Ile
			20					25					30		
Asp	Tyr	Ile	Thr	Pro	Ala	Arg	Leu	Asp	Glu	Leu	Leu	Phe	Ser	Ala	Ile
		35					40					45			
Leu	Glu	Ser	His	Asp	Ala	Arg	Lys	Glu	His	Gln	Ser	Phe	Val	Lys	Gln
	50					55					60				
Leu	Lys	Asp	Asn	Gly	Ile	Asn	Val	Val	Glu	Leu	Asp	Glu	Leu	Val	Ala
65					70					75					80
Gln	Thr	Tyr	Asp	Gln	Val	Asp	Gln	Lys	Ile	Lys	Asp	Glu	Phe	Ile	Asp
				85					90					95	
Gln	Trp	Leu	Gln	Glu	Ala	Lys	Pro	Val	Leu	Asn	Asp	Gln	Leu	Lys	Lys
			100					105					110		
Leu	Val	Lys	Asn	Tyr	Leu	Leu	Lys	Ser	Gln	Lys	Glu	Phe	Ser	Thr	Lys
		115					120					125			
Lys	Met	Val	Arg	Ile	Met	Met	Ala	Gly	Ile	Asp	Lys	Lys	Glu	Ile	Asn
	130					135					140				
Ile	Asp	Leu	Asp	Arg	Asp	Leu	Val	Val	Asp	Pro	Met	Pro	Asn	Leu	Tyr
145					150					155					160
Phe	Thr	Arg	Asp	Pro	Phe	Ala	Ser	Val	Gly	Asn	Gly	Val	Thr	Ile	His
				165					170					175	
Tyr	Met	Arg	Tyr	Lys	Val	Arg	Gln	Arg	Glu	Thr	Leu	Phe	Ser	Arg	Phe
			180					185					190		

TDWG00201SequenceListing

Val Phe Ser Asn His Pro Lys Leu Val Lys Thr Pro Trp Tyr Tyr Asp
195 200 205

Pro Ala Met Lys Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn
210 215 220

Asn Asp Thr Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr
225 230 235 240

Ile Thr Leu Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Val Glu Phe
245 250 255

Lys Arg Ile Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His
260 265 270

Leu Asp Thr Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser
275 280 285

Pro Ile Ala Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn
290 295 300

Gly Gly Ala Glu Pro Gln Pro Lys Glu Asn Gly Leu Pro Leu Glu Gly
305 310 315 320

Leu Leu Gln Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala
325 330 335

Gly Asn Asn Ala Ser His Ile Asp Ile Glu Arg Glu Thr His Phe Asp
340 345 350

Gly Thr Asn Tyr Leu Ala Ile Lys Pro Gly Val Val Ile Gly Tyr Ala
355 360 365

Arg Asn Glu Lys Thr Asn Ala Ala Leu Ala Ala Ala Gly Ile Lys Val
370 375 380

TDWG00201SequenceListing

Leu Pro Phe His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg
385 390 395 400

Cys Met Ser Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 43
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C6DS2 recombinant chimeric ADI protein

<400> 43

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Lys Gln
50 55 60

Leu Lys Asp Asn Gly Ile Asn Val Val Glu Leu Ile Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Gln Glu Ala Lys Asp Lys Leu Ile Glu
85 90 95

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Val
100 105 110

Val Val Arg Asn Phe Leu Lys Ala Lys Lys Thr Ser Arg Glu Leu Val
115 120 125

TDWG00201SequenceListing

Glu Ile Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Val Lys Thr Pro Trp Tyr Tyr Asp Pro Ala Met
195 200 205

Lys Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Ile Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Val Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Lys Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

TDWG00201SequenceListing

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Asn Asn
 325 330 335

Ala Ser His Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
 340 345 350

Tyr Leu Ala Ile Lys Pro Gly Val Val Ile Gly Tyr Ala Arg Asn Glu
 355 360 365

Lys Thr Asn Ala Ala Leu Ala Ala Ala Gly Ile Lys Val Leu Pro Phe
 370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
 385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
 405 410

<210> 44
 <211> 410
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C6DS3 recombinant chimeric ADI protein

<400> 44

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

TDWG00201SequenceListing

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Lys Gln
50 55 60

Leu Lys Asp Asn Gly Ile Asn Val Val Glu Leu Val Asp Leu Ile Val
65 70 75 80

Glu Thr Tyr Asp Leu Ala Ser Lys Glu Ala Lys Glu Lys Leu Leu Glu
85 90 95

Glu Phe Leu Asp Asp Ser Val Pro Val Leu Ser Asp Glu His Arg Ala
100 105 110

Thr Val Lys Lys Phe Leu Gln Ser Gln Lys Ser Thr Arg Ser Leu Val
115 120 125

Glu Tyr Met Ile Ala Gly Ile Thr Lys His Asp Leu Lys Ile Glu Ser
130 135 140

Asp Leu Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Val Lys Thr Pro Trp Tyr Tyr Asp Pro Ala Met
195 200 205

Lys Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Ile Thr Leu
225 230 235 240

TDWG00201SequenceListing

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Val Glu Phe Lys Arg Ile
 245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
 260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
 275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
 290 295 300

Glu Pro Gln Pro Lys Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
 305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Asn Asn
 325 330 335

Ala Ser His Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
 340 345 350

Tyr Leu Ala Ile Lys Pro Gly Val Val Ile Gly Tyr Ala Arg Asn Glu
 355 360 365

Lys Thr Asn Ala Ala Leu Ala Ala Ala Gly Ile Lys Val Leu Pro Phe
 370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
 385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
 405 410

<210> 45
 <211> 412
 <212> PRT
 <213> Artificial Sequence

TDWG00201SequenceListing

<220>

<223> C6DS4 recombinant chimeric ADI protein

<400> 45

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Lys Gln
50 55 60

Leu Lys Asp Asn Gly Ile Asn Val Val Glu Leu Ser Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Thr Tyr His Ala Thr Gln Lys Glu Arg Glu Ala Phe Ile
85 90 95

Glu Lys Trp Leu Asp Glu Ala Glu Pro Ala Leu Thr Lys Asp Leu Arg
100 105 110

Ala Lys Val Lys Ser Tyr Val Leu Ser Lys Glu Gly Thr Pro Val Ala
115 120 125

Met Val Arg Thr Met Met Ala Gly Val Ser Lys Gln Glu Leu Asn Val
130 135 140

Glu Ser Glu Thr Glu Leu Val Val Asp Pro Met Pro Asn Leu Tyr Phe
145 150 155 160

Thr Arg Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr
165 170 175

TDWG00201SequenceListing

Met Arg Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Val
180 185 190

Phe Ser Asn His Pro Lys Leu Val Lys Thr Pro Trp Tyr Tyr Asp Pro
195 200 205

Ala Met Lys Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn
210 215 220

Asp Thr Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Ile
225 230 235 240

Thr Leu Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Val Glu Phe Lys
245 250 255

Arg Ile Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu
260 265 270

Asp Thr Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro
275 280 285

Ile Ala Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly
290 295 300

Gly Ala Glu Pro Gln Pro Lys Glu Asn Gly Leu Pro Leu Glu Gly Leu
305 310 315 320

Leu Gln Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly
325 330 335

Asn Asn Ala Ser His Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly
340 345 350

Thr Asn Tyr Leu Ala Ile Lys Pro Gly Val Val Ile Gly Tyr Ala Arg
355 360 365

TDWG00201SequenceListing

Asn Glu Lys Thr Asn Ala Ala Leu Ala Ala Ala Gly Ile Lys Val Leu
370 375 380

Pro Phe His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys
385 390 395 400

Met Ser Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 46
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C6DS5 recombinant chimeric ADI protein

<400> 46

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Lys Gln
50 55 60

Leu Lys Asp Asn Gly Ile Asn Val Val Glu Leu Thr Asp Leu Val Thr
65 70 75 80

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

TDWG00201SequenceListing

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Thr Glu Glu Leu Lys Ser
 100 105 110

Val Val Arg Thr Tyr Leu Lys Ser Ile Lys Ser Thr Arg Glu Leu Ile
 115 120 125

Gln Met Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
 130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
 145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
 165 170 175

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

Asn His Pro Lys Leu Val Lys Thr Pro Trp Tyr Tyr Asp Pro Ala Met
 195 200 205

Lys Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
 210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Ile Thr Leu
 225 230 235 240

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Val Glu Phe Lys Arg Ile
 245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
 260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
 275 280 285

TDWG00201SequenceListing

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Lys Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Asn Asn
325 330 335

Ala Ser His Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Lys Pro Gly Val Val Ile Gly Tyr Ala Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 47

<211> 410

<212> PRT

<213> Artificial Sequence

<220>

<223> C6DS7 recombinant chimeric ADI protein

<400> 47

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Glu Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

TDWG00201SequenceListing

Asp Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Ser Phe Val Lys Gln
50 55 60

Leu Lys Asp Asn Gly Ile Asn Val Val Glu Leu Thr Asp Leu Val Ser
65 70 75 80

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

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Gly
100 105 110

Leu Val Arg Lys Phe Leu Lys Ser Leu Lys Ser Ser Lys Glu Leu Ile
115 120 125

Gln Tyr Met Met Ala Gly Ile Thr Lys His Asp Leu Asn Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

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

Asn His Pro Lys Leu Val Lys Thr Pro Trp Tyr Tyr Asp Pro Ala Met
195 200 205

Lys Met Ser Ile Glu Gly Gly Asp Val Phe Ile Tyr Asn Asn Asp Thr
210 215 220

TDWG00201SequenceListing

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Glu Thr Ile Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Val Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Ala
290 295 300

Glu Pro Gln Pro Lys Glu Asn Gly Leu Pro Leu Glu Gly Leu Leu Gln
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Val Leu Ile Pro Ile Ala Gly Asn Asn
325 330 335

Ala Ser His Ile Asp Ile Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Lys Pro Gly Val Val Ile Gly Tyr Ala Arg Asn Glu
355 360 365

Lys Thr Asn Ala Ala Leu Ala Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

His Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

TDWG00201SequenceListing

<210> 48
 <211> 413
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C7DS1 recombinant chimeric ADI protein

<400> 48

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Gln Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Glu Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Glu Phe Val Ala Glu
 50 55 60

Leu Lys Lys Asn Asn Ile Asn Val Val Glu Leu Asp Glu Leu Val Ala
 65 70 75 80

Gln Thr Tyr Asp Gln Val Asp Gln Lys Ile Lys Asp Glu Phe Ile Asp
 85 90 95

Gln Trp Leu Gln Glu Ala Lys Pro Val Leu Asn Asp Gln Leu Lys Lys
 100 105 110

Leu Val Lys Asn Tyr Leu Leu Lys Ser Gln Lys Glu Phe Ser Thr Lys
 115 120 125

Lys Met Val Arg Ile Met Met Ala Gly Ile Asp Lys Lys Glu Ile Asn
 130 135 140

TDWG00201SequenceListing

Ile Asp Leu Asp Arg Asp Leu Val Val Asp Pro Met Pro Asn Leu Tyr
145 150 155 160

Phe Thr Arg Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His
165 170 175

Tyr Met Arg Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe
180 185 190

Ile Phe Ala Asn His Pro Lys Leu Met Asn Thr Pro Leu Tyr Tyr Asn
195 200 205

Pro Asp Met Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Val Tyr Asn
210 215 220

Asn Glu Thr Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr
225 230 235 240

Ile Thr Leu Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Arg Glu Phe
245 250 255

Lys Arg Ile Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His
260 265 270

Leu Asp Thr Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser
275 280 285

Pro Ile Ala Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn
290 295 300

Gly Gly Asp Glu Pro Gln Pro Lys Val Asn Gly Leu Pro Leu Glu Lys
305 310 315 320

Leu Leu Glu Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala
325 330 335

TDWG00201SequenceListing

Gly Thr Ser Ala Ser Asn Ile Asp Val Glu Arg Glu Thr His Phe Asp
340 345 350

Gly Thr Asn Tyr Leu Ala Ile Ala Pro Gly Val Val Ile Gly Tyr Ser
355 360 365

Arg Asn Val Lys Thr Asn Glu Ala Leu Glu Ala Ala Gly Ile Lys Val
370 375 380

Leu Pro Phe Lys Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg
385 390 395 400

Cys Met Ser Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 49
<211> 410
<212> PRT
<213> Artificial Sequence

<220>
<223> C7DS2 recombinant chimeric ADI protein

<400> 49

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Gln Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Glu Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Glu Phe Val Ala Glu
50 55 60

Leu Lys Lys Asn Asn Ile Asn Val Val Glu Leu Ile Asp Leu Val Ala
65 70 75 80

TDWG00201SequenceListing

Glu Thr Tyr Asp Leu Ala Ser Gln Glu Ala Lys Asp Lys Leu Ile Glu
85 90 95

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Ser Glu Glu His Lys Val
100 105 110

Val Val Arg Asn Phe Leu Lys Ala Lys Lys Thr Ser Arg Glu Leu Val
115 120 125

Glu Ile Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Ile Phe Ala
180 185 190

Asn His Pro Lys Leu Met Asn Thr Pro Leu Tyr Tyr Asn Pro Asp Met
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Val Tyr Asn Asn Glu Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Arg Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

TDWG00201SequenceListing

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
 275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Asp
 290 295 300

Glu Pro Gln Pro Lys Val Asn Gly Leu Pro Leu Glu Lys Leu Leu Glu
 305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Thr Ser
 325 330 335

Ala Ser Asn Ile Asp Val Glu Arg Glu Thr His Phe Asp Gly Thr Asn
 340 345 350

Tyr Leu Ala Ile Ala Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Val
 355 360 365

Lys Thr Asn Glu Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
 370 375 380

Lys Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
 385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
 405 410

<210> 50
 <211> 410
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C7DS3 recombinant chimeric ADI protein

<400> 50

TDWG00201SequenceListing

Met	Ser	Val	Phe	Asp	Ser	Lys	Phe	Asn	Gly	Ile	His	Val	Tyr	Ser	Glu
1				5					10					15	
Ile	Gly	Glu	Leu	Gln	Thr	Val	Leu	Val	His	Glu	Pro	Gly	Arg	Glu	Ile
			20					25					30		
Glu	Tyr	Ile	Thr	Pro	Ala	Arg	Leu	Asp	Glu	Leu	Leu	Phe	Ser	Ala	Ile
		35					40					45			
Leu	Glu	Ser	His	Asp	Ala	Arg	Lys	Glu	His	Gln	Glu	Phe	Val	Ala	Glu
	50					55					60				
Leu	Lys	Lys	Asn	Asn	Ile	Asn	Val	Val	Glu	Leu	Val	Asp	Leu	Ile	Val
65					70					75					80
Glu	Thr	Tyr	Asp	Leu	Ala	Ser	Lys	Glu	Ala	Lys	Glu	Lys	Leu	Leu	Glu
				85					90					95	
Glu	Phe	Leu	Asp	Asp	Ser	Val	Pro	Val	Leu	Ser	Asp	Glu	His	Arg	Ala
			100					105					110		
Thr	Val	Lys	Lys	Phe	Leu	Gln	Ser	Gln	Lys	Ser	Thr	Arg	Ser	Leu	Val
		115					120					125			
Glu	Tyr	Met	Ile	Ala	Gly	Ile	Thr	Lys	His	Asp	Leu	Lys	Ile	Glu	Ser
		130				135					140				
Asp	Leu	Glu	Leu	Ile	Val	Asp	Pro	Met	Pro	Asn	Leu	Tyr	Phe	Thr	Arg
145					150					155					160
Asp	Pro	Phe	Ala	Ser	Val	Gly	Asn	Gly	Val	Thr	Ile	His	Tyr	Met	Arg
				165				170						175	
Tyr	Lys	Val	Arg	Gln	Arg	Glu	Thr	Leu	Phe	Ser	Arg	Phe	Ile	Phe	Ala
			180					185					190		

TDWG00201SequenceListing

Asn His Pro Lys Leu Met Asn Thr Pro Leu Tyr Tyr Asn Pro Asp Met
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Val Tyr Asn Asn Glu Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Arg Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Asp
290 295 300

Glu Pro Gln Pro Lys Val Asn Gly Leu Pro Leu Glu Lys Leu Leu Glu
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Thr Ser
325 330 335

Ala Ser Asn Ile Asp Val Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Ala Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Val
355 360 365

Lys Thr Asn Glu Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

TDWG00201SequenceListing

Lys Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 51
<211> 412
<212> PRT
<213> Artificial Sequence

<220>
<223> C7DS4 recombinant chimeric ADI protein

<400> 51

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Gln Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Glu Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Glu Phe Val Ala Glu
50 55 60

Leu Lys Lys Asn Asn Ile Asn Val Val Glu Leu Ser Asp Leu Val Ala
65 70 75 80

Glu Thr Tyr Thr Tyr His Ala Thr Gln Lys Glu Arg Glu Ala Phe Ile
85 90 95

Glu Lys Trp Leu Asp Glu Ala Glu Pro Ala Leu Thr Lys Asp Leu Arg
100 105 110

Ala Lys Val Lys Ser Tyr Val Leu Ser Lys Glu Gly Thr Pro Val Ala
115 120 125

TDWG00201SequenceListing

Met Val Arg Thr Met Met Ala Gly Val Ser Lys Gln Glu Leu Asn Val
130 135 140

Glu Ser Glu Thr Glu Leu Val Val Asp Pro Met Pro Asn Leu Tyr Phe
145 150 155 160

Thr Arg Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr
165 170 175

Met Arg Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Ile
180 185 190

Phe Ala Asn His Pro Lys Leu Met Asn Thr Pro Leu Tyr Tyr Asn Pro
195 200 205

Asp Met Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Val Tyr Asn Asn
210 215 220

Glu Thr Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile
225 230 235 240

Thr Leu Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Arg Glu Phe Lys
245 250 255

Arg Ile Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu
260 265 270

Asp Thr Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro
275 280 285

Ile Ala Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly
290 295 300

Gly Asp Glu Pro Gln Pro Lys Val Asn Gly Leu Pro Leu Glu Lys Leu
305 310 315 320

TDWG00201SequenceListing

Leu Glu Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly
 325 330 335

Thr Ser Ala Ser Asn Ile Asp Val Glu Arg Glu Thr His Phe Asp Gly
 340 345 350

Thr Asn Tyr Leu Ala Ile Ala Pro Gly Val Val Ile Gly Tyr Ser Arg
 355 360 365

Asn Val Lys Thr Asn Glu Ala Leu Glu Ala Ala Gly Ile Lys Val Leu
 370 375 380

Pro Phe Lys Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys
 385 390 395 400

Met Ser Met Pro Leu Ser Arg Lys Asp Val Lys Trp
 405 410

<210> 52
 <211> 410
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C7DS5 recombinant chimeric ADI protein

<400> 52

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
 1 5 10 15

Ile Gly Glu Leu Gln Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
 20 25 30

Glu Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
 35 40 45

TDWG00201SequenceListing

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Glu Phe Val Ala Glu
50 55 60

Leu Lys Lys Asn Asn Ile Asn Val Val Glu Leu Thr Asp Leu Val Thr
65 70 75 80

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

Glu Phe Leu Glu Asp Ser Glu Pro Val Leu Thr Glu Glu Leu Lys Ser
100 105 110

Val Val Arg Thr Tyr Leu Lys Ser Ile Lys Ser Thr Arg Glu Leu Ile
115 120 125

Gln Met Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Ile Phe Ala
180 185 190

Asn His Pro Lys Leu Met Asn Thr Pro Leu Tyr Tyr Asn Pro Asp Met
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Val Tyr Asn Asn Glu Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile Thr Leu
225 230 235 240

TDWG00201SequenceListing

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Arg Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Asp
290 295 300

Glu Pro Gln Pro Lys Val Asn Gly Leu Pro Leu Glu Lys Leu Leu Glu
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Thr Ser
325 330 335

Ala Ser Asn Ile Asp Val Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Ala Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Val
355 360 365

Lys Thr Asn Glu Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

Lys Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 53
<211> 410
<212> PRT
<213> Artificial Sequence

TDWG00201SequenceListing

<220>

<223> C7DS6 recombinant chimeric ADI protein

<400> 53

Met Ser Val Phe Asp Ser Lys Phe Asn Gly Ile His Val Tyr Ser Glu
1 5 10 15

Ile Gly Glu Leu Gln Thr Val Leu Val His Glu Pro Gly Arg Glu Ile
20 25 30

Glu Tyr Ile Thr Pro Ala Arg Leu Asp Glu Leu Leu Phe Ser Ala Ile
35 40 45

Leu Glu Ser His Asp Ala Arg Lys Glu His Gln Glu Phe Val Ala Glu
50 55 60

Leu Lys Lys Asn Asn Ile Asn Val Val Glu Leu Thr Asp Leu Val Ala
65 70 75 80

Glu Thr Phe Asp Leu Ala Ser Lys Glu Glu Gln Glu Lys Leu Ile Glu
85 90 95

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

Ala Val Arg Lys Phe Leu Thr Ser Arg Lys Ser Thr Arg Glu Met Val
115 120 125

Glu Phe Met Met Ala Gly Ile Thr Lys Tyr Asp Leu Gly Ile Glu Ala
130 135 140

Asp His Glu Leu Ile Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg
145 150 155 160

Asp Pro Phe Ala Ser Val Gly Asn Gly Val Thr Ile His Tyr Met Arg
165 170 175

TDWG00201SequenceListing

Tyr Lys Val Arg Gln Arg Glu Thr Leu Phe Ser Arg Phe Ile Phe Ala
180 185 190

Asn His Pro Lys Leu Met Asn Thr Pro Leu Tyr Tyr Asn Pro Asp Met
195 200 205

Lys Leu Ser Ile Glu Gly Gly Asp Val Phe Val Tyr Asn Asn Glu Thr
210 215 220

Leu Val Val Gly Val Ser Glu Arg Thr Asp Leu Asp Thr Ile Thr Leu
225 230 235 240

Leu Ala Lys Asn Ile Lys Ala Asn Lys Glu Arg Glu Phe Lys Arg Ile
245 250 255

Val Ala Ile Asn Val Pro Lys Trp Thr Asn Leu Met His Leu Asp Thr
260 265 270

Trp Leu Thr Met Leu Asp Lys Asp Lys Phe Leu Tyr Ser Pro Ile Ala
275 280 285

Asn Asp Val Phe Lys Phe Trp Asp Tyr Asp Leu Val Asn Gly Gly Asp
290 295 300

Glu Pro Gln Pro Lys Val Asn Gly Leu Pro Leu Glu Lys Leu Leu Glu
305 310 315 320

Ser Ile Ile Asn Lys Lys Pro Ile Leu Ile Pro Ile Ala Gly Thr Ser
325 330 335

Ala Ser Asn Ile Asp Val Glu Arg Glu Thr His Phe Asp Gly Thr Asn
340 345 350

Tyr Leu Ala Ile Ala Pro Gly Val Val Ile Gly Tyr Ser Arg Asn Val
355 360 365

TDWG00201SequenceListing

Lys Thr Asn Glu Ala Leu Glu Ala Ala Gly Ile Lys Val Leu Pro Phe
370 375 380

Lys Gly Asn Gln Leu Ser Leu Gly Met Gly Asn Ala Arg Cys Met Ser
385 390 395 400

Met Pro Leu Ser Arg Lys Asp Val Lys Trp
405 410

<210> 54
<211> 399
<212> PRT
<213> Artificial Sequence

<220>
<223> C8DS3 recombinant chimeric ADI protein

<400> 54

Met Ser Lys Ile Arg Val Tyr Ser Glu Ile Gly Asn Leu Lys Lys Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Glu Glu Leu Leu Phe Ser Ala Val Leu Glu Pro Asn Ala Ala Ile
35 40 45

Glu Glu His Lys Arg Phe Val Lys Leu Leu Glu Asp Arg Gly Ile Gln
50 55 60

Ala Ile Gln Leu Val Asp Leu Ile Val Glu Thr Tyr Asp Leu Ala Ser
65 70 75 80

Lys Glu Ala Lys Glu Lys Leu Leu Glu Glu Phe Leu Asp Asp Ser Val
85 90 95

TDWG00201SequenceListing

Pro Val Leu Ser Asp Glu His Arg Ala Thr Val Lys Lys Phe Leu Gln
100 105 110

Ser Gln Lys Ser Thr Arg Ser Leu Val Glu Tyr Met Ile Ala Gly Ile
115 120 125

Thr Lys His Asp Leu Lys Ile Glu Ser Asp Leu Glu Leu Ile Val Asp
130 135 140

Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser Ala Gly
145 150 155 160

Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Val Arg Lys Arg Glu
165 170 175

Thr Ile Phe Ala Glu Phe Ile Phe Ala Ile His Pro Glu Tyr Lys Glu
180 185 190

Thr Pro His Trp Phe Asp Arg Leu Asp His Gly Ser Ile Glu Gly Gly
195 200 205

Asp Val Phe Val Tyr Asn Lys Asp Thr Leu Val Ile Gly Val Ser Glu
210 215 220

Arg Thr Asn Lys Glu Ala Ile Ile Thr Ile Ala Lys His Ile Gln Asp
225 230 235 240

Asn Lys Glu Ala Glu Phe Lys Lys Ile Val Ala Ile Asn Val Pro Pro
245 250 255

Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val Asp Lys
260 265 270

Asn Lys Phe Ile Tyr Ser Pro Asn Met Leu Ser Val Leu Lys Ile Trp
275 280 285

TDWG00201SequenceListing

Glu Ile Asp Leu Ala Lys Pro Ile Glu Met Val Glu Ser Asn Lys Ser
290 295 300

Leu Thr Glu Val Leu Glu Ser Ile Ile Gly Glu Lys Pro Ile Leu Ile
305 310 315 320

Pro Ile Ala Gly Glu Gly Ala Ser Gln Leu Asp Ile Asp Ile Glu Thr
325 330 335

His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val Val Val
340 345 350

Gly Tyr Ser Arg Asn Glu Lys Thr Glu Lys Ala Leu Lys Ala Ala Gly
355 360 365

Ile Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly Met Gly
370 375 380

Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val Lys
385 390 395

<210> 55
<211> 401
<212> PRT
<213> Artificial Sequence

<220>
<223> C8DS4 recombinant chimeric ADI protein

<400> 55

Met Ser Lys Ile Arg Val Tyr Ser Glu Ile Gly Asn Leu Lys Lys Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Glu Glu Leu Leu Phe Ser Ala Val Leu Glu Pro Asn Ala Ala Ile
35 40 45

TDWG00201SequenceListing

Glu Glu His Lys Arg Phe Val Lys Leu Leu Glu Asp Arg Gly Ile Gln
50 55 60

Ala Ile Gln Leu Ser Asp Leu Val Ala Glu Thr Tyr Thr Tyr His Ala
65 70 75 80

Thr Gln Lys Glu Arg Glu Ala Phe Ile Glu Lys Trp Leu Asp Glu Ala
85 90 95

Glu Pro Ala Leu Thr Lys Asp Leu Arg Ala Lys Val Lys Ser Tyr Val
100 105 110

Leu Ser Lys Glu Gly Thr Pro Val Ala Met Val Arg Thr Met Met Ala
115 120 125

Gly Val Ser Lys Gln Glu Leu Asn Val Glu Ser Glu Thr Glu Leu Val
130 135 140

Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser
145 150 155 160

Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Val Arg Lys
165 170 175

Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ala Ile His Pro Glu Tyr
180 185 190

Lys Glu Thr Pro His Trp Phe Asp Arg Leu Asp His Gly Ser Ile Glu
195 200 205

Gly Gly Asp Val Phe Val Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

Ser Glu Arg Thr Asn Lys Glu Ala Ile Ile Thr Ile Ala Lys His Ile
225 230 235 240

TDWG00201SequenceListing

Gln Asp Asn Lys Glu Ala Glu Phe Lys Lys Ile Val Ala Ile Asn Val
 245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
 260 265 270

Asp Lys Asn Lys Phe Ile Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
 275 280 285

Ile Trp Glu Ile Asp Leu Ala Lys Pro Ile Glu Met Val Glu Ser Asn
 290 295 300

Lys Ser Leu Thr Glu Val Leu Glu Ser Ile Ile Gly Glu Lys Pro Ile
 305 310 315 320

Leu Ile Pro Ile Ala Gly Glu Gly Ala Ser Gln Leu Asp Ile Asp Ile
 325 330 335

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
 340 345 350

Val Val Gly Tyr Ser Arg Asn Glu Lys Thr Glu Lys Ala Leu Lys Ala
 355 360 365

Ala Gly Ile Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
 370 375 380

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val
 385 390 395 400

Lys

<210> 56
 <211> 401

TDWG00201SequenceListing

<212> PRT

<213> Artificial Sequence

<220>

<223> C8DS9 recombinant chimeric ADI protein

<400> 56

Met Ser Lys Ile Arg Val Tyr Ser Glu Ile Gly Asn Leu Lys Lys Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ser Pro Ser Arg
20 25 30

Leu Glu Glu Leu Leu Phe Ser Ala Val Leu Glu Pro Asn Ala Ala Ile
35 40 45

Glu Glu His Lys Arg Phe Val Lys Leu Leu Glu Asp Arg Gly Ile Gln
50 55 60

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

Ser Glu Ala Glu Lys Glu Ala Phe Ile Glu Lys Tyr Leu Asp Glu Ala
85 90 95

Thr Pro Val Leu Ser Lys Asp Met Arg Ala Lys Val Lys Asn Tyr Ile
100 105 110

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

Gly Val Ser Lys Gln Glu Leu Asn Val Glu Ser Glu Val Glu Leu Ile
130 135 140

Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser
145 150 155 160

TDWG00201SequenceListing

Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Val Arg Lys
165 170 175

Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ala Ile His Pro Glu Tyr
180 185 190

Lys Glu Thr Pro His Trp Phe Asp Arg Leu Asp His Gly Ser Ile Glu
195 200 205

Gly Gly Asp Val Phe Val Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

Ser Glu Arg Thr Asn Lys Glu Ala Ile Ile Thr Ile Ala Lys His Ile
225 230 235 240

Gln Asp Asn Lys Glu Ala Glu Phe Lys Lys Ile Val Ala Ile Asn Val
245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
260 265 270

Asp Lys Asn Lys Phe Ile Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
275 280 285

Ile Trp Glu Ile Asp Leu Ala Lys Pro Ile Glu Met Val Glu Ser Asn
290 295 300

Lys Ser Leu Thr Glu Val Leu Glu Ser Ile Ile Gly Glu Lys Pro Ile
305 310 315 320

Leu Ile Pro Ile Ala Gly Glu Gly Ala Ser Gln Leu Asp Ile Asp Ile
325 330 335

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
340 345 350

TDWG00201SequenceListing

Val Val Gly Tyr Ser Arg Asn Glu Lys Thr Glu Lys Ala Leu Lys Ala
355 360 365

Ala Gly Ile Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
370 375 380

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val
385 390 395 400

Lys

<210> 57

<211> 399

<212> PRT

<213> Artificial Sequence

<220>

<223> C9DS3 recombinant chimeric ADI protein

<400> 57

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Val Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ala Pro Ser Arg
20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Ser Ala Ala Ile
35 40 45

Gln Glu His Lys Ser Phe Leu Lys Ile Leu Gln Asp Arg Gly Ile Lys
50 55 60

Thr Ile Gln Leu Val Asp Leu Ile Val Glu Thr Tyr Asp Leu Ala Ser
65 70 75 80

Lys Glu Ala Lys Glu Lys Leu Leu Glu Glu Phe Leu Asp Asp Ser Val
85 90 95

TDWG00201SequenceListing

Pro Val Leu Ser Asp Glu His Arg Ala Thr Val Lys Lys Phe Leu Gln
100 105 110

Ser Gln Lys Ser Thr Arg Ser Leu Val Glu Tyr Met Ile Ala Gly Ile
115 120 125

Thr Lys His Asp Leu Lys Ile Glu Ser Asp Leu Glu Leu Ile Val Asp
130 135 140

Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser Ala Gly
145 150 155 160

Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Val Arg Lys Arg Glu
165 170 175

Thr Ile Phe Ala Glu Phe Ile Phe Ser Ile His Pro Glu Tyr Lys Lys
180 185 190

Thr Pro His Trp Phe Asp Arg Leu Asp Asn Gly Ser Ile Glu Gly Gly
195 200 205

Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val Ser Glu
210 215 220

Arg Thr Asn Lys Glu Ala Ile Ile Thr Ile Ala Lys His Ile Gln Asp
225 230 235 240

Asn Lys Glu Ala Gln Phe Lys Lys Ile Val Ala Ile Asn Val Pro Pro
245 250 255

Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val Asp Lys
260 265 270

Asn Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys Val Trp
275 280 285

TDWG00201SequenceListing

Glu Ile Asp Leu Ser Lys Pro Ile Glu Met Val Glu Thr Asn Lys Pro
290 295 300

Leu Ala Glu Val Leu Glu Ser Ile Ile Gly Glu Lys Pro Ile Leu Ile
305 310 315 320

Pro Ile Ala Gly Lys Asp Ala Thr Gln Leu Asp Ile Asp Ile Glu Thr
325 330 335

His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val Val Val
340 345 350

Gly Tyr Ser Arg Asn Val Lys Thr Glu Ala Ala Leu Arg Ala Ala Gly
355 360 365

Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly Met Gly
370 375 380

Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val Lys
385 390 395

<210> 58
<211> 401
<212> PRT
<213> Artificial Sequence

<220>
<223> C9DS4 recombinant chimeric ADI protein

<400> 58

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Val Leu Lys Glu Val
1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ala Pro Ser Arg
20 25 30

TDWG00201SequenceListing

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Ser Ala Ala Ile
35 40 45

Gln Glu His Lys Ser Phe Leu Lys Ile Leu Gln Asp Arg Gly Ile Lys
50 55 60

Thr Ile Gln Leu Ser Asp Leu Val Ala Glu Thr Tyr Thr Tyr His Ala
65 70 75 80

Thr Gln Lys Glu Arg Glu Ala Phe Ile Glu Lys Trp Leu Asp Glu Ala
85 90 95

Glu Pro Ala Leu Thr Lys Asp Leu Arg Ala Lys Val Lys Ser Tyr Val
100 105 110

Leu Ser Lys Glu Gly Thr Pro Val Ala Met Val Arg Thr Met Met Ala
115 120 125

Gly Val Ser Lys Gln Glu Leu Asn Val Glu Ser Glu Thr Glu Leu Val
130 135 140

Val Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser
145 150 155 160

Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Val Arg Lys
165 170 175

Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ser Ile His Pro Glu Tyr
180 185 190

Lys Lys Thr Pro His Trp Phe Asp Arg Leu Asp Asn Gly Ser Ile Glu
195 200 205

Gly Gly Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

TDWG00201SequenceListing

Ser Glu Arg Thr Asn Lys Glu Ala Ile Ile Thr Ile Ala Lys His Ile
225 230 235 240

Gln Asp Asn Lys Glu Ala Gln Phe Lys Lys Ile Val Ala Ile Asn Val
245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
260 265 270

Asp Lys Asn Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
275 280 285

Val Trp Glu Ile Asp Leu Ser Lys Pro Ile Glu Met Val Glu Thr Asn
290 295 300

Lys Pro Leu Ala Glu Val Leu Glu Ser Ile Ile Gly Glu Lys Pro Ile
305 310 315 320

Leu Ile Pro Ile Ala Gly Lys Asp Ala Thr Gln Leu Asp Ile Asp Ile
325 330 335

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
340 345 350

Val Val Gly Tyr Ser Arg Asn Val Lys Thr Glu Ala Ala Leu Arg Ala
355 360 365

Ala Gly Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
370 375 380

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val
385 390 395 400

Lys

TDWG00201SequenceListing

<210> 59
 <211> 401
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C9DS8 recombinant chimeric ADI protein

<400> 59

Met Ser Lys Ile Asn Val Tyr Ser Glu Ile Gly Val Leu Lys Glu Val
 1 5 10 15

Leu Val His Thr Pro Gly Asp Glu Ile Arg Arg Ile Ala Pro Ser Arg
 20 25 30

Leu Asp Glu Leu Leu Phe Ser Ala Ile Leu Glu Pro Ser Ala Ala Ile
 35 40 45

Gln Glu His Lys Ser Phe Leu Lys Ile Leu Gln Asp Arg Gly Ile Lys
 50 55 60

Thr Ile Gln Leu Ser Asp Leu Val Ala Glu Thr Tyr Val Lys Tyr Ala
 65 70 75 80

Thr Ala Glu Gln Lys Ala Ala Phe Ile Glu Lys Tyr Leu Asp Glu Ala
 85 90 95

Thr Pro Ala Leu Ser Ala Glu Asn Arg Glu Arg Ala Lys Lys Tyr Ile
 100 105 110

Leu Ser Leu Glu Met Gln Pro Val Lys Met Ile Arg Thr Met Met Ala
 115 120 125

Gly Leu Ser Lys Tyr Glu Leu Asn Val Glu Ser Asn Ile Glu Leu Ile
 130 135 140

Ile Asp Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Phe Ala Ser
 145 150 155 160

TDWG00201SequenceListing

Ala Gly Asn Gly Ile Ser Leu Asn Asn Met Lys Tyr Val Val Arg Lys
165 170 175

Arg Glu Thr Ile Phe Ala Glu Phe Ile Phe Ser Ile His Pro Glu Tyr
180 185 190

Lys Lys Thr Pro His Trp Phe Asp Arg Leu Asp Asn Gly Ser Ile Glu
195 200 205

Gly Gly Asp Val Phe Ile Tyr Asn Lys Asp Thr Leu Val Ile Gly Val
210 215 220

Ser Glu Arg Thr Asn Lys Glu Ala Ile Ile Thr Ile Ala Lys His Ile
225 230 235 240

Gln Asp Asn Lys Glu Ala Gln Phe Lys Lys Ile Val Ala Ile Asn Val
245 250 255

Pro Pro Met Pro Asn Leu Met His Leu Asp Thr Trp Leu Thr Met Val
260 265 270

Asp Lys Asn Lys Phe Leu Tyr Ser Pro Asn Met Leu Ser Val Leu Lys
275 280 285

Val Trp Glu Ile Asp Leu Ser Lys Pro Ile Glu Met Val Glu Thr Asn
290 295 300

Lys Pro Leu Ala Glu Val Leu Glu Ser Ile Ile Gly Glu Lys Pro Ile
305 310 315 320

Leu Ile Pro Ile Ala Gly Lys Asp Ala Thr Gln Leu Asp Ile Asp Ile
325 330 335

Glu Thr His Phe Asp Gly Thr Asn Tyr Leu Thr Ile Ala Pro Gly Val
340 345 350

TDWG00201SequenceListing

Val Val Gly Tyr Ser Arg Asn Val Lys Thr Glu Ala Ala Leu Arg Ala
 355 360 365

Ala Gly Val Thr Val Leu Ser Phe Glu Gly Asn Gln Leu Ser Leu Gly
 370 375 380

Met Gly Ser Ala Arg Cys Met Ser Met Pro Leu Val Arg Glu Asp Val
 385 390 395 400

Lys