

SEQUENCE LISTING

<110> EUROIMMUN Medizinische Labordiagnostika AG

<120> Method for the detection of an autoantibody to acetylcholine receptor

<130> 19PP166EP1

<160> 14

<170> PatentIn version 3.5

<210> 1

<211> 457

<212> PRT

<213> Homo sapiens

<400> 1

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		20					25					30			

Lys	Asp	Tyr	Ser	Ser	Val	Val	Arg	Pro	Val	Glu	Asp	His	Arg	Gln	Val
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Val	Glu	Val	Thr	Val	Gly	Leu	Gln	Leu	Ile	Gln	Leu	Ile	Asn	Val	Asp
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Glu	Val	Asn	Gln	Ile	Val	Thr	Thr	Asn	Val	Arg	Leu	Lys	Gln	Gln	Trp
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Val	Asp	Tyr	Asn	Leu	Lys	Trp	Asn	Pro	Asp	Asp	Tyr	Gly	Gly	Val	Lys
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Lys	Ile	His	Ile	Pro	Ser	Glu	Lys	Ile	Trp	Arg	Pro	Asp	Leu	Val	Leu
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Tyr	Asn	Asn	Ala	Asp	Gly	Asp	Phe	Ala	Ile	Val	Lys	Phe	Thr	Lys	Val
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Leu Leu Gln Tyr Thr Gly His Ile Thr Trp Thr Pro Pro Ala Ile Phe
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Lys Ser Tyr Cys Glu Ile Ile Val Thr His Phe Pro Phe Asp Glu Gln
145 150 155 160

Asn Cys Ser Met Lys Leu Gly Thr Trp Thr Tyr Asp Gly Ser Val Val
165 170 175

Ala Ile Asn Pro Glu Ser Asp Gln Pro Asp Leu Ser Asn Phe Met Glu
180 185 190

Ser Gly Glu Trp Val Ile Lys Glu Ser Arg Gly Trp Lys His Ser Val
195 200 205

Thr Tyr Ser Cys Cys Pro Asp Thr Pro Tyr Leu Asp Ile Thr Tyr His
210 215 220

Phe Val Met Gln Arg Leu Pro Leu Tyr Phe Ile Val Asn Val Ile Ile
225 230 235 240

Pro Cys Leu Leu Phe Ser Phe Leu Thr Gly Leu Val Phe Tyr Leu Pro
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Thr Asp Ser Gly Glu Lys Met Thr Leu Ser Ile Ser Val Leu Leu Ser
260 265 270

Leu Thr Val Phe Leu Leu Val Ile Val Glu Leu Ile Pro Ser Thr Ser
275 280 285

Ser Ala Val Pro Leu Ile Gly Lys Tyr Met Leu Phe Thr Met Val Phe
290 295 300

Val Ile Ala Ser Ile Ile Ile Thr Val Ile Val Ile Asn Thr His His
305 310 315 320

Arg Ser Pro Ser Thr His Val Met Pro Asn Trp Val Arg Lys Val Phe
325 330 335

Ile Asp Thr Ile Pro Asn Ile Met Phe Phe Ser Thr Met Lys Arg Pro
340 345 350

Ser Arg Glu Lys Gln Asp Lys Lys Ile Phe Thr Glu Asp Ile Asp Ile
355 360 365

Ser Asp Ile Ser Gly Lys Pro Gly Pro Pro Pro Met Gly Phe His Ser
370 375 380

Pro Leu Ile Lys His Pro Glu Val Lys Ser Ala Ile Glu Gly Ile Lys
385 390 395 400

Tyr Ile Ala Glu Thr Met Lys Ser Asp Gln Glu Ser Asn Asn Ala Ala
405 410 415

Ala Glu Trp Lys Tyr Val Ala Met Val Met Asp His Ile Leu Leu Gly
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Val Phe Met Leu Val Cys Ile Ile Gly Thr Leu Ala Val Phe Ala Gly
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Arg Leu Ile Glu Leu Asn Gln Gln Gly
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<210> 2
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<212> PRT
<213> Homo sapiens

<400> 2

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Lys Leu Phe Ser Gly Tyr Asp Ser Ser Val Arg Pro Ala Arg Glu Val
35 40 45

Gly Asp Arg Val Arg Val Ser Val Gly Leu Ile Leu Ala Gln Leu Ile
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Ser Leu Asn Glu Lys Asp Glu Glu Met Ser Thr Lys Val Tyr Leu Asp
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Leu Glu Trp Thr Asp Tyr Arg Leu Ser Trp Asp Pro Ala Glu His Asp
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Gly Ile Asp Ser Leu Arg Ile Thr Ala Glu Ser Val Trp Leu Pro Asp
100 105 110

Val Val Leu Leu Asn Asn Asn Asp Gly Asn Phe Asp Val Ala Leu Asp
115 120 125

Ile Ser Val Val Val Ser Ser Asp Gly Ser Val Arg Trp Gln Pro Pro
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Gly Ile Tyr Arg Ser Ser Cys Ser Ile Gln Val Thr Tyr Phe Pro Phe
145 150 155 160

Asp Trp Gln Asn Cys Thr Met Val Phe Ser Ser Tyr Ser Tyr Asp Ser
165 170 175

Ser Glu Val Ser Leu Gln Thr Gly Leu Gly Pro Asp Gly Gln Gly His
180 185 190

Gln Glu Ile His Ile His Glu Gly Thr Phe Ile Glu Asn Gly Gln Trp
195 200 205

Glu Ile Ile His Lys Pro Ser Arg Leu Ile Gln Pro Pro Gly Asp Pro
210 215 220

Arg Gly Gly Arg Glu Gly Gln Arg Gln Glu Val Ile Phe Tyr Leu Ile

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Ile Arg Arg Lys Pro Leu Phe Tyr Leu Val Asn Val Ile Ala Pro Cys						
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Ile Leu Ile Thr Leu Leu Ala Ile Phe Val Phe Tyr Leu Pro Pro Asp						
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Ala Gly Glu Lys Met Gly Leu Ser Ile Phe Ala Leu Leu Thr Leu Thr						
		275		280		285
Val Phe Leu Leu Leu Leu Ala Asp Lys Val Pro Glu Thr Ser Leu Ser						
		290		295		300
Val Pro Ile Ile Ile Lys Tyr Leu Met Phe Thr Met Val Leu Val Thr						
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Phe Ser Val Ile Leu Ser Val Val Val Leu Asn Leu His His Arg Ser						
		325		330		335
Pro His Thr His Gln Met Pro Leu Trp Val Arg Gln Ile Phe Ile His						
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Lys Leu Pro Leu Tyr Leu Arg Leu Lys Arg Pro Lys Pro Glu Arg Asp						
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Leu Met Pro Glu Pro Pro His Cys Ser Ser Pro Gly Ser Gly Trp Gly						
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Arg Gly Thr Asp Glu Tyr Phe Ile Arg Lys Pro Pro Ser Asp Phe Leu						
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Phe Pro Lys Pro Asn Arg Phe Gln Pro Glu Leu Ser Ala Pro Asp Leu						
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Arg Arg Phe Ile Asp Gly Pro Asn Arg Ala Val Ala Leu Leu Pro Glu						
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Leu Arg Glu Val Val Ser Ser Ile Ser Tyr Ile Ala Arg Gln Leu Gln
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Glu Gln Glu Asp His Asp Ala Leu Lys Glu Asp Trp Gln Phe Val Ala
450 455 460

Met Val Val Asp Arg Leu Phe Leu Trp Thr Phe Ile Ile Phe Thr Ser
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Val Gly Thr Leu Val Ile Phe Leu Asp Ala Thr Tyr His Leu Pro Pro
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Pro Asp Pro Phe Pro
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<212> PRT
<213> Homo sapiens

<400> 3

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35 40 45

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

His Gly Trp Thr Asp Asn Arg Leu Lys Trp Asn Ala Glu Glu Phe Gly
85 90 95

Asn Ile Ser Val Leu Arg Leu Pro Pro Asp Met Val Trp Leu Pro Glu
100 105 110

Ile Val Leu Glu Asn Asn Asn Asp Gly Ser Phe Gln Ile Ser Tyr Ser
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Cys Asn Val Leu Val Tyr His Tyr Gly Phe Val Tyr Trp Leu Pro Pro
130 135 140

Ala Ile Phe Arg Ser Ser Cys Pro Ile Ser Val Thr Tyr Phe Pro Phe
145 150 155 160

Asp Trp Gln Asn Cys Ser Leu Lys Phe Ser Ser Leu Lys Tyr Thr Ala
165 170 175

Lys Glu Ile Thr Leu Ser Leu Lys Gln Asp Ala Lys Glu Asn Arg Thr
180 185 190

Tyr Pro Val Glu Trp Ile Ile Ile Asp Pro Glu Gly Phe Thr Glu Asn
195 200 205

Gly Glu Trp Glu Ile Val His Arg Pro Ala Arg Val Asn Val Asp Pro
210 215 220

Arg Ala Pro Leu Asp Ser Pro Ser Arg Gln Asp Ile Thr Phe Tyr Leu
225 230 235 240

Ile Ile Arg Arg Lys Pro Leu Phe Tyr Ile Ile Asn Ile Leu Val Pro
245 250 255

Cys Val Leu Ile Ser Phe Met Val Asn Leu Val Phe Tyr Leu Pro Ala
260 265 270

Asp Ser Gly Glu Lys Thr Ser Val Ala Ile Ser Val Leu Leu Ala Gln
275 280 285

Ser Val Phe Leu Leu Leu Ile Ser Lys Arg Leu Pro Ala Thr Ser Met
290 295 300

Ala Ile Pro Leu Ile Gly Lys Phe Leu Leu Phe Gly Met Val Leu Val
305 310 315 320

Thr Met Val Val Val Ile Cys Val Ile Val Leu Asn Ile His Phe Arg
325 330 335

Thr Pro Ser Thr His Val Leu Ser Glu Gly Val Lys Lys Leu Phe Leu
340 345 350

Glu Thr Leu Pro Glu Leu Leu His Met Ser Arg Pro Ala Glu Asp Gly
355 360 365

Pro Ser Pro Gly Ala Leu Val Arg Arg Ser Ser Ser Leu Gly Tyr Ile
370 375 380

Ser Lys Ala Glu Glu Tyr Phe Leu Leu Lys Ser Arg Ser Asp Leu Met
385 390 395 400

Phe Glu Lys Gln Ser Glu Arg His Gly Leu Ala Arg Arg Leu Thr Thr
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Ala Arg Arg Pro Pro Ala Ser Ser Glu Gln Ala Gln Gln Glu Leu Phe
420 425 430

Asn Glu Leu Lys Pro Ala Val Asp Gly Ala Asn Phe Ile Val Asn His
435 440 445

Met Arg Asp Gln Asn Asn Tyr Asn Glu Glu Lys Asp Ser Trp Asn Arg
450 455 460

Val Ala Arg Thr Val Asp Arg Leu Cys Leu Phe Val Val Thr Pro Val
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Met Val Val Gly Thr Ala Trp Ile Phe Leu Gln Gly Val Tyr Asn Gln
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<400> 4

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

Gln Asp Tyr Arg Leu Asn Tyr Ser Lys Asp Asp Phe Gly Gly Ile Glu
85 90 95

Thr Leu Arg Val Pro Ser Glu Leu Val Trp Leu Pro Glu Ile Val Leu
100 105 110

Glu Asn Asn Ile Asp Gly Gln Phe Gly Val Ala Tyr Asp Ala Asn Val
115 120 125

Leu Val Tyr Glu Gly Gly Ser Val Thr Trp Leu Pro Pro Ala Ile Tyr

130

135

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

Asp Ile Asp Thr Glu Ala Tyr Thr Glu Asn Gly Glu Trp Ala Ile Asp
 195 200 205

Phe Cys Pro Gly Val Ile Arg Arg His His Gly Gly Ala Thr Asp Gly
 210 215 220

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

Leu Phe Tyr Val Ile Asn Ile Ile Val Pro Cys Val Leu Ile Ser Gly
 245 250 255

Leu Val Leu Leu Ala Tyr Phe Leu Pro Ala Gln Ala Gly Gly Gln Lys
 260 265 270

Cys Thr Val Ser Ile Asn Val Leu Leu Ala Gln Thr Val Phe Leu Phe
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Leu Ile Ala Gln Lys Ile Pro Glu Thr Ser Leu Ser Val Pro Leu Leu
 290 295 300

Gly Arg Phe Leu Ile Phe Val Met Val Val Ala Thr Leu Ile Val Met
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Asn Cys Val Ile Val Leu Asn Val Ser Gln Arg Thr Pro Thr Thr His
 325 330 335

Ala Met Ser Pro Arg Leu Arg His Val Leu Leu Glu Leu Leu Pro Arg
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Leu Leu Gly Ser Pro Pro Pro Pro Glu Ala Pro Arg Ala Ala Ser Pro
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Pro Arg Arg Ala Ser Ser Val Gly Leu Leu Leu Arg Ala Glu Glu Leu
370 375 380

Ile Leu Lys Lys Pro Arg Ser Glu Leu Val Phe Glu Gly Gln Arg His
385 390 395 400

Arg Gln Gly Thr Trp Thr Ala Ala Phe Cys Gln Ser Leu Gly Ala Ala
405 410 415

Ala Pro Glu Val Arg Cys Cys Val Asp Ala Val Asn Phe Val Ala Glu
420 425 430

Ser Thr Arg Asp Gln Glu Ala Thr Gly Glu Glu Val Ser Asp Trp Val
435 440 445

Arg Met Gly Asn Ala Leu Asp Asn Ile Cys Phe Trp Ala Ala Leu Val
450 455 460

Leu Phe Ser Val Gly Ser Ser Leu Ile Phe Leu Gly Ala Tyr Phe Asn
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Arg Val Pro Asp Leu Pro Tyr Ala Pro Cys Ile Gln Pro
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<213> Homo sapiens

<400> 5

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Leu Met Gln Asn Tyr Asp Pro Asn Leu Arg Pro Ala Glu Arg Asp Ser
35 40 45

Asp Val Val Asn Val Ser Leu Lys Leu Thr Leu Thr Asn Leu Ile Ser
50 55 60

Leu Asn Glu Arg Glu Glu Ala Leu Thr Thr Asn Val Trp Ile Glu Met
65 70 75 80

Gln Trp Cys Asp Tyr Arg Leu Arg Trp Asp Pro Arg Asp Tyr Glu Gly
85 90 95

Leu Trp Val Leu Arg Val Pro Ser Thr Met Val Trp Arg Pro Asp Ile
100 105 110

Val Leu Glu Asn Asn Val Asp Gly Val Phe Glu Val Ala Leu Tyr Cys
115 120 125

Asn Val Leu Val Ser Pro Asp Gly Cys Ile Tyr Trp Leu Pro Pro Ala
130 135 140

Ile Phe Arg Ser Ala Cys Ser Ile Ser Val Thr Tyr Phe Pro Phe Asp
145 150 155 160

Trp Gln Asn Cys Ser Leu Ile Phe Gln Ser Gln Thr Tyr Ser Thr Asn
165 170 175

Glu Ile Asp Leu Gln Leu Ser Gln Glu Asp Gly Gln Thr Ile Glu Trp
180 185 190

Ile Phe Ile Asp Pro Glu Ala Phe Thr Glu Asn Gly Glu Trp Ala Ile
195 200 205

Gln His Arg Pro Ala Lys Met Leu Leu Asp Pro Ala Ala Pro Ala Gln
210 215 220

Glu Ala Gly His Gln Lys Val Val Phe Tyr Leu Leu Ile Gln Arg Lys
225 230 235 240

Pro Leu Phe Tyr Val Ile Asn Ile Ile Ala Pro Cys Val Leu Ile Ser
245 250 255

Ser Val Ala Ile Leu Ile His Phe Leu Pro Ala Lys Ala Gly Gly Gln
260 265 270

Lys Cys Thr Val Ala Ile Asn Val Leu Leu Ala Gln Thr Val Phe Leu
275 280 285

Phe Leu Val Ala Lys Lys Val Pro Glu Thr Ser Gln Ala Val Pro Leu
290 295 300

Ile Ser Lys Tyr Leu Thr Phe Leu Leu Val Val Thr Ile Leu Ile Val
305 310 315 320

Val Asn Ala Val Val Val Leu Asn Val Ser Leu Arg Ser Pro His Thr
325 330 335

His Ser Met Ala Arg Gly Val Arg Lys Val Phe Leu Arg Leu Leu Pro
340 345 350

Gln Leu Leu Arg Met His Val Arg Pro Leu Ala Pro Ala Ala Val Gln
355 360 365

Asp Thr Gln Ser Arg Leu Gln Asn Gly Ser Ser Gly Trp Ser Ile Thr
370 375 380

Thr Gly Glu Glu Val Ala Leu Cys Leu Pro Arg Ser Glu Leu Leu Phe
385 390 395 400

Gln Gln Trp Gln Arg Gln Gly Leu Val Ala Ala Ala Leu Glu Lys Leu
405 410 415

Glu Lys Gly Pro Glu Leu Gly Leu Ser Gln Phe Cys Gly Ser Leu Lys
420 425 430

Gln Ala Ala Pro Ala Ile Gln Ala Cys Val Glu Ala Cys Asn Leu Ile
435 440 445

Ala Cys Ala Arg His Gln Gln Ser His Phe Asp Asn Gly Asn Glu Glu
450 455 460

Trp Phe Leu Val Gly Arg Val Leu Asp Arg Val Cys Phe Leu Ala Met
465 470 475 480

Leu Ser Leu Phe Ile Cys Gly Thr Ala Gly Ile Phe Leu Met Ala His
485 490 495

Tyr Asn Arg Val Pro Ala Leu Pro Phe Pro Gly Asp Pro Arg Pro Tyr
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Leu Pro Ser Pro Asp
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<213> Homo sapiens

<400> 6

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Leu Glu Lys Ser Ser Asp Leu Met Gly Arg Phe Arg Val Leu Gly Cys
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Leu Val Thr Ala His Ser Glu Met Gly Arg Tyr Lys Glu Met Leu Lys

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55

60

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

Phe Leu Leu Glu Ser Tyr Leu Asn Leu Ala Arg Ser Asn Glu Lys Leu
85 90 95

Cys Glu Phe His Lys Thr Ile Ser Tyr Cys Lys Thr Cys Leu Gly Leu
100 105 110

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

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

Ser Phe Glu Lys Ala Leu Arg Tyr Ala His Asn Asn Asp Asp Ala Met
145 150 155 160

Leu Glu Cys Arg Val Cys Cys Ser Leu Gly Ser Phe Tyr Ala Gln Val
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Lys Asp Tyr Glu Lys Ala Leu Phe Phe Pro Cys Lys Ala Ala Glu Leu
180 185 190

Val Asn Asn Tyr Gly Lys Gly Trp Ser Leu Lys Tyr Arg Ala Met Ser
195 200 205

Gln Tyr His Met Ala Val Ala Tyr Arg Leu Leu Gly Arg Leu Gly Ser
210 215 220

Ala Met Glu Cys Cys Glu Glu Ser Met Lys Ile Ala Leu Gln His Gly
225 230 235 240

Asp Arg Pro Leu Gln Ala Leu Cys Leu Leu Cys Phe Ala Asp Ile His
245 250 255

Arg Ser Arg Gly Asp Leu Glu Thr Ala Phe Pro Arg Tyr Asp Ser Ala
260 265 270

Met Ser Ile Met Thr Glu Ile Gly Asn Arg Leu Gly Gln Val Gln Ala
275 280 285

Leu Leu Gly Val Ala Lys Cys Trp Val Ala Arg Lys Ala Leu Asp Lys
290 295 300

Ala Leu Asp Ala Ile Glu Arg Ala Gln Asp Leu Ala Glu Glu Val Gly
305 310 315 320

Asn Lys Leu Ser Gln Leu Lys Leu His Cys Leu Ser Glu Ser Ile Tyr
325 330 335

Arg Ser Lys Gly Leu Gln Arg Glu Leu Arg Ala His Val Val Arg Phe
340 345 350

His Glu Cys Val Glu Glu Thr Glu Leu Tyr Cys Gly Leu Cys Gly Glu
355 360 365

Ser Ile Gly Glu Lys Asn Ser Arg Leu Gln Ala Leu Pro Cys Ser His
370 375 380

Ile Phe His Leu Arg Cys Leu Gln Asn Asn Gly Thr Arg Ser Cys Pro
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Asn Cys Arg Arg Ser Ser Met Lys Pro Gly Phe Val
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