



BCS10-2003.ST25.txt																
Gly	Tyr 50	Lys	Val	Arg	Ser	Ser 55	Glu	Met	Ala	Glu	Val 60	Ala	Leu	Lys	Leu	
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cac His	ctc Leu	gcg Ala	acg Thr	gat Asp 85	act Thr	gtt Val	cat His	tac Tyr	aac Asn 90	ccc Pro	gct Ala	gag Glu	ctt Leu	tac Tyr 95	tcg Ser	288
tgg Trp	ctt Leu	gat Asp	aac Asn 100	atg Met	ctc Leu	acg Thr	gag Glu	ctt Leu 105	aac Asn	cca Pro	ccc Pro	gct Ala	gca Ala 110	acg Thr	acc Thr	336
gga Gly	tct Ser	aac Asn 115	gct Ala	ttg Leu	aac Asn	ccg Pro	gag Glu 120	att Ile	aat Asn	aat Asn	aat Asn 125	aat Asn	aat Asn	aac Asn	tcg Ser	384
ttt Phe 130	ttc Phe	acc Thr	gga Gly	ggc Gly	gac Asp	ctc Leu 135	aaa Lys	gcg Ala	att Ile	cct Pro	gga Gly 140	aac Asn	gcg Ala	gtt Val	tgt Cys	432
cgc Arg 145	aga Arg	tct Ser	aat Asn	cag Gln	ttc Phe 150	gcg Ala	ttt Phe	gcg Ala	gtt Val	gat Asp 155	tcg Ser	tcg Ser	agt Ser	aat Asn	aag Lys 160	480
cgt Arg	ttg Leu	aaa Lys	ccg Pro	tcc Ser 165	tcg Ser	agc Ser	cct Pro	gat Asp	tcg Ser 170	atg Met	gtt Val	aca Thr	tct Ser	cca Pro 175	tca Ser	528
cct Pro	gct Ala	gga Gly	gtt Val 180	ata Ile	gga Gly	acg Thr	acg Thr	gtt Val 185	aca Thr	acc Thr	gtg Val	acc Thr	gag Glu 190	tca Ser	act Thr	576
cgt Arg	cct Pro	tta Leu 195	atc Ile	ctg Leu	gtc Val	gac Asp	tcg Ser 200	cag Gln	gac Asp	aac Asn	gga Gly 205	gtg Val	cgt Arg	cta Leu	gtc Val	624
cac His 210	gcg Ala	ctt Leu	atg Met	gcc Ala	tgc Cys	gct Ala 215	gaa Glu	gcc Ala	gtg Val	cag Gln	agc Ser 220	agc Ser	aac Asn	ttg Leu	act Thr	672
cta Leu 225	gcg Ala	gag Glu	gct Ala	ctc Leu	gtt Val 230	aag Lys	cag Gln	att Ile	ggt Gly	ttc Phe 235	ttg Leu	gcc Ala	gtc Val	tct Ser	caa Gln 240	720
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tta Leu	tcc Ser	gat Asp 275	act Thr	ctc Leu	cag Gln	atg Met	cac His 280	ttc Phe	tac Tyr	gag Glu	act Thr	tgc Cys 285	cct Pro	tac Tyr	ctc Leu	864
aag Lys 290	ttc Phe	gct Ala	cac His	ttc Phe	acg Thr	gcg Ala 295	aat Asn	cag Gln	gcg Ala	att Ile	ctc Leu 300	gag Glu	gct Ala	ttc Phe	gaa Glu	912
ggg Gly 305	aag Lys	aag Lys	aga Arg	gtc Val	cac His 310	gtc Val	atc Ile	gat Asp	ttc Phe	tcg Ser 315	atg Met	aac Asn	caa Gln	ggg Gly	ctt Leu 320	960
cag Gln	tgg Trp	ccc Pro	gcg Ala	ctt Leu 325	atg Met	caa Gln	gcc Ala	ctt Leu	gcg Ala 330	ttg Leu	agg Arg	gaa Glu	gga Gly	ggt Gly 335	cct Pro	1008
ccg Pro	agt Ser	ttc Phe	agg Arg 340	tta Leu	acc Thr	gga Gly	att Ile	ggt Gly 345	cct Pro	ccc Pro	gcg Ala	gcg Ala	gat Asp 350	aac Asn	tcc Ser	1056
gat	cat	ctc	cat	gaa	gtt	gga	tgt	aag	ttg	gct	cag	ctc	gcg	gag	gcg	1104

Asp	His	Leu	His	Glu	Val	Gly	Cys	Lys	Leu	Ala	Gln	Leu	Ala	Glu	Ala		
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Ile	His	Val	Glu	Phe	Glu	Tyr	Arg	Gly	Phe	Val	Ala	Asn	Ser	Leu	Ala		
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gat	ctt	gat	gcc	tcg	atg	ctt	gag	ctt	aga	ccg	agt	gaa	acc	gaa	gct	1200	
Asp	Leu	Asp	Ala	Ser	Met	Leu	Glu	Leu	Arg	Pro	Ser	Glu	Thr	Glu	Ala		
		385			390					395					400		
gtg	gcg	gtt	aac	tct	gtt	ttc	gag	ctc	cac	aag	ctc	cta	ggc	cgt	acc	1248	
Val	Ala	Val	Asn	Ser	Val	Phe	Glu	Leu	His	Lys	Leu	Leu	Gly	Arg	Thr		
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ggg	ggg	ata	gag	aaa	gtc	ttc	ggc	gtt	gtg	aaa	cag	att	aaa	ccg	gtg	1296	
Gly	Gly	Ile	Glu	Lys	Val	Phe	Gly	Val	Val	Lys	Gln	Ile	Lys	Pro	Val		
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Leu	Asp	Arg	Phe	Thr	Glu	Ser	Leu	His	Tyr	Tyr	Ser	Thr	Leu	Phe	Asp		
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tcc	ttg	gaa	ggg	gct	ccg	agt	agc	caa	gat	aaa	gtt	atg	tcg	gaa	gtt	1440	
Ser	Leu	Glu	Gly	Ala	Pro	Ser	Ser	Gln	Asp	Lys	Val	Met	Ser	Glu	Val		
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tat	tta	ggg	aaa	cag	att	tgc	aat	ctg	gtg	gct	tgc	gaa	ggg	ccg	gac	1488	
Tyr	Leu	Gly	Lys	Gln	Ile	Cys	Asn	Leu	Val	Ala	Cys	Glu	Gly	Pro	Asp		
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cgt	gtt	gag	aga	cat	gag	acg	ctg	agt	caa	tgg	tcg	aac	cgg	ttc	ggg	1536	
Arg	Val	Glu	Arg	His	Glu	Thr	Leu	Ser	Gln	Trp	Ser	Asn	Arg	Phe	Gly		
			500					505					510				
tcg	tcc	ggg	ttt	gcg	ccg	gcg	cat	ctc	ggg	tct	aac	gcg	ttt	aag	caa	1584	
Ser	Ser	Gly	Phe	Ala	Pro	Ala	His	Leu	Gly	Ser	Asn	Ala	Phe	Lys	Gln		
		515					520					525					
gcg	agt	acg	ctt	ttg	gct	ttg	ttt	aat	gga	ggc	gaa	ggg	tat	cgt	gtg	1632	
Ala	Ser	Thr	Leu	Leu	Ala	Leu	Phe	Asn	Gly	Gly	Glu	Gly	Tyr	Arg	Val		
		530				535					540						
gag	gag	aat	aat	ggg	tgt	ttg	atg	ttg	agt	tgg	cac	act	cga	ccg	ctc	1680	
Glu	Glu	Asn	Asn	Gly	Cys	Leu	Met	Leu	Ser	Trp	His	Thr	Arg	Pro	Leu		
		545			550					555					560		
ata	acc	acc	tcc	gct	tgg	aag	ctc	tcg	gcg	gtg	cac	tga				1719	
Ile	Thr	Thr	Ser	Ala	Trp	Lys	Leu	Ser	Ala	Val	His						
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			20					25					30		

Met	Met	Met	Val	Lys	Glu	Glu	Glu	Asp	Asp	Glu	Leu	Leu	Gly	Val	Leu
		35					40					45			

Gly	Tyr	Lys	Val	Arg	Ser	Ser	Glu	Met	Ala	Glu	Val	Ala	Leu	Lys	Leu
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50

55

Glu Gln Leu Glu Thr Met Met Gly Asn Ala Gln Glu Asp Gly Leu Ala  
65 70 75 80

His Leu Ala Thr Asp Thr Val His Tyr Asn Pro Ala Glu Leu Tyr Ser  
85 90 95

Trp Leu Asp Asn Met Leu Thr Glu Leu Asn Pro Pro Ala Ala Thr Thr  
100 105 110

Gly Ser Asn Ala Leu Asn Pro Glu Ile Asn Asn Asn Asn Asn Ser  
115 120 125

Phe Phe Thr Gly Gly Asp Leu Lys Ala Ile Pro Gly Asn Ala Val Cys  
130 135 140

Arg Arg Ser Asn Gln Phe Ala Phe Ala Val Asp Ser Ser Ser Asn Lys  
145 150 155 160

Arg Leu Lys Pro Ser Ser Ser Pro Asp Ser Met Val Thr Ser Pro Ser  
165 170 175

Pro Ala Gly Val Ile Gly Thr Thr Val Thr Thr Val Thr Glu Ser Thr  
180 185 190

Arg Pro Leu Ile Leu Val Asp Ser Gln Asp Asn Gly Val Arg Leu Val  
195 200 205

His Ala Leu Met Ala Cys Ala Glu Ala Val Gln Ser Ser Asn Leu Thr  
210 215 220

Leu Ala Glu Ala Leu Val Lys Gln Ile Gly Phe Leu Ala Val Ser Gln  
225 230 235 240

Ala Gly Ala Met Arg Lys Val Ala Thr Tyr Phe Ala Glu Ala Leu Ala  
245 250 255

Arg Arg Ile Tyr Arg Leu Ser Pro Pro Gln Thr Gln Ile Asp His Ser  
260 265 270

Leu Ser Asp Thr Leu Gln Met His Phe Tyr Glu Thr Cys Pro Tyr Leu  
275 280 285

Lys Phe Ala His Phe Thr Ala Asn Gln Ala Ile Leu Glu Ala Phe Glu  
290 295 300

Gly Lys Lys Arg Val His Val Ile Asp Phe Ser Met Asn Gln Gly Leu  
305 310 315 320

Gln Trp Pro Ala Leu Met Gln Ala Leu Ala Leu Arg Glu Gly Gly Pro  
325 330 335

Pro Ser Phe Arg Leu Thr Gly Ile Gly Pro Pro Ala Ala Asp Asn Ser  
340 345 350

Asp His Leu His Glu Val Gly Cys Lys Leu Ala Gln Leu Ala Glu Ala

355

360

Ile His Val Glu Phe Glu Tyr Arg Gly Phe Val Ala Asn Ser Leu Ala  
370 375 380

Asp Leu Asp Ala Ser Met Leu Glu Leu Arg Pro Ser Glu Thr Glu Ala  
385 390 395 400

Val Ala Val Asn Ser Val Phe Glu Leu His Lys Leu Leu Gly Arg Thr  
405 410 415

Gly Gly Ile Glu Lys Val Phe Gly Val Val Lys Gln Ile Lys Pro Val  
420 425 430

Ile Phe Thr Val Val Glu Gln Glu Ser Asn His Asn Gly Pro Val Phe  
435 440 445

Leu Asp Arg Phe Thr Glu Ser Leu His Tyr Tyr Ser Thr Leu Phe Asp  
450 455 460

Ser Leu Glu Gly Ala Pro Ser Ser Gln Asp Lys Val Met Ser Glu Val  
465 470 475 480

Tyr Leu Gly Lys Gln Ile Cys Asn Leu Val Ala Cys Glu Gly Pro Asp  
485 490 495

Arg Val Glu Arg His Glu Thr Leu Ser Gln Trp Ser Asn Arg Phe Gly  
500 505 510

Ser Ser Gly Phe Ala Pro Ala His Leu Gly Ser Asn Ala Phe Lys Gln  
515 520 525

Ala Ser Thr Leu Leu Ala Leu Phe Asn Gly Gly Glu Gly Tyr Arg Val  
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Ile Thr Thr Ser Ala Trp Lys Leu Ser Ala Val His  
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atc gcc ggt tct tcc act tct tcc cct gcg gtg ttt ggt aaa gac aag 96  
 Ile Ala Gly Ser Ser Thr Ser Ser Pro Ala Val Phe Gly Lys Asp Lys  
 20 25 30

atg atg atg gtt aag gaa gaa gaa gac gac gag ctt cta gga gtc ttg 144  
 Met Met Met Val Lys Glu Glu Glu Asp Asp Glu Leu Leu Gly Val Leu

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gag Glu	cag Gln	ctt Leu	gag Glu	acg Thr	atg Met	atg Met	ggt Gly	aac Asn	gct Ala	caa Gln	gaa Glu	gac Asp	ggt Gly	tta Leu	gct Ala	240
65					70					75					80	
cac His	ctc Leu	gcg Ala	acg Thr	gat Asp	act Thr	gtt Val	cat His	tac Tyr	aac Asn	ccc Pro	gct Ala	gag Glu	ctt Leu	tac Tyr	tcg Ser	288
				85					90					95		
tgg Trp	ctt Leu	gat Asp	aac Asn	atg Met	ctc Leu	acg Thr	gag Glu	ctt Leu	aac Asn	cca Pro	ccc Pro	gct Ala	gca Ala	acg Thr	acc Thr	336
			100					105					110			
ggg Gly	tct Ser	aac Asn	gct Ala	ttg Leu	aac Asn	ccg Pro	gag Glu	att Ile	aat Asn	aat Asn	aat Asn	aat Asn	aat Asn	aat Asn	aac Asn	384
		115					120					125				
tcg Ser	ttt Phe	ttc Phe	acc Thr	gga Gly	ggc Gly	gac Asp	ctc Leu	aaa Lys	gcg Ala	att Ile	cct Pro	gga Gly	aac Asn	gcg Ala	gtt Val	432
	130					135					140					
tgt Cys	cgc Arg	aga Arg	tct Ser	aat Asn	cag Gln	ttc Phe	gcg Ala	ttt Phe	gcg Ala	gtt Val	gat Asp	tcg Ser	tcg Ser	agt Ser	aat Asn	480
145					150					155					160	
aag Lys	cgt Arg	ttg Leu	aaa Lys	ccg Pro	tcc Ser	tcg Ser	agc Ser	cct Pro	gat Asp	tcg Ser	atg Met	gtt Val	aca Thr	tct Ser	cca Pro	528
				165					170					175		
tca Ser	cct Pro	gct Ala	gga Gly	gtt Val	ata Ile	gga Gly	acg Thr	acg Thr	gtt Val	aca Thr	acc Thr	gtg Val	acc Thr	gag Glu	tca Ser	576
			180					185					190			
act Thr	cgt Arg	cct Pro	tta Leu	atc Ile	ctg Leu	gtc Val	gac Asp	tcg Ser	cag Gln	gac Asp	aac Asn	gga Gly	gtg Val	cg Arg	cta Leu	624
		195					200					205				
gtc Val	cac His	gcg Ala	ctt Leu	atg Met	gcc Ala	tgc Cys	gct Ala	gaa Glu	gcc Ala	gtg Val	cag Gln	agc Ser	agc Ser	aac Asn	ttg Leu	672
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225					230					235					240	
caa Gln	gcc Ala	gga Gly	gcc Ala	atg Met	agg Arg	aaa Lys	gtc Val	gcc Ala	acg Thr	tac Tyr	ttc Phe	gcc Ala	gaa Glu	gct Ala	ctc Leu	768
				245					250					255		
gcg Ala	cgg Arg	cgg Arg	atc Ile	tac Tyr	cg Arg	ctc Leu	tct Ser	ccg Pro	ccg Pro	cag Gln	acg Thr	cag Gln	atc Ile	gat Asp	cac His	816
			260					265					270			
tct Ser	cta Leu	tcc Ser	gat Asp	act Thr	ctc Leu	cag Gln	atg Met	cac His	ttc Phe	tac Tyr	gag Glu	act Thr	tgc Cys	cct Pro	tac Tyr	864
		275					280					285				
ctc Leu	aag Lys	ttc Phe	gct Ala	cac His	ttc Phe	acg Thr	gcg Ala	aat Asn	cag Gln	gcc Ala	atc Ile	ctc Leu	gag Glu	gct Ala	ttc Phe	912
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ctt Leu	cag Gln	tgg Trp	ccc Pro	gcg Ala	ctt Leu	atg Met	caa Gln	gcc Ala	ctc Leu	gcg Ala	ttg Leu	agg Arg	gaa Glu	gga Gly	ggt Gly	1008
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cct Pro	ccg Pro	agt Ser	ttc Phe	agg Arg	tta Leu	acc Thr	gga Gly	atc Ile	ggt Gly	cct Pro	ccc Pro	gcg Ala	gcg Ala	gat Asp	aac Asn	1056

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gct	gtg	gcg	gtt	aac	tct	gtt	ttc	gag	ctt	cac	aag	ctt	cta	ggc	cgt	1248
Ala	Val	Ala	Val	Asn	Ser	Val	Phe	Glu	Leu	His	Lys	Leu	Leu	Gly	Arg	
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acc	ggt	ggg	ata	gag	aaa	gtc	ttc	ggc	gtt	gtg	aaa	cag	att	aaa	ccg	1296
Thr	Gly	Gly	Ile	Glu	Lys	Val	Phe	Gly	Val	Val	Lys	Gln	Ile	Lys	Pro	
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gtg	att	ttc	acg	gtt	gtt	gag	caa	gaa	tcg	aat	cat	aac	ggc	ccg	gtt	1344
Val	Ile	Phe	Thr	Val	Val	Glu	Gln	Glu	Ser	Asn	His	Asn	Gly	Pro	Val	
		435				440						445				
ttc	tta	gac	cgg	ttt	act	gaa	tcg	ctg	cat	tat	tat	tcg	acg	ttg	ttt	1392
Phe	Leu	Asp	Arg	Phe	Thr	Glu	Ser	Leu	His	Tyr	Tyr	Ser	Thr	Leu	Phe	
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			485						490					495		
gac	cgt	gtt	gag	aga	cac	gag	acg	ctg	agt	cag	tgg	tcg	aac	cgg	ttc	1536
Asp	Arg	Val	Glu	Arg	His	Glu	Thr	Leu	Ser	Gln	Trp	Ser	Asn	Arg	Phe	
			500					505					510			
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Gly	Ser	Ser	Gly	Phe	Ala	Pro	Ala	His	Leu	Gly	Ser	Asn	Ala	Phe	Lys	
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Gln	Ala	Ser	Thr	Leu	Leu	Ala	Leu	Phe	Asn	Gly	Gly	Glu	Gly	Tyr	Arg	
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gtg	gag	gag	aat	aat	ggg	tgt	ttg	atg	ttg	agt	tgg	cac	act	cga	ccg	1680
Val	Glu	Glu	Asn	Asn	Gly	Cys	Leu	Met	Leu	Ser	Trp	His	Thr	Arg	Pro	
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ctc	ata	acc	acc	tcc	gct	tgg	aag	ctc	tcg	gct	gtg	cac	tga			1722
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 35 40 45

Gly Tyr Lys Val Arg Ser Ser Glu Met Ala Glu Val Ala Leu Lys Leu  
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 Glu Gln Leu Glu Thr Met Met Gly Asn Ala Gln Glu Asp Gly Leu Ala  
 65 70 75 80  
 His Leu Ala Thr Asp Thr Val His Tyr Asn Pro Ala Glu Leu Tyr Ser  
 85 90 95  
 Trp Leu Asp Asn Met Leu Thr Glu Leu Asn Pro Pro Ala Ala Thr Thr  
 100 105 110  
 Gly Ser Asn Ala Leu Asn Pro Glu Ile Asn Asn Asn Asn Asn Asn  
 115 120 125  
 Ser Phe Phe Thr Gly Gly Asp Leu Lys Ala Ile Pro Gly Asn Ala Val  
 130 135 140  
 Cys Arg Arg Ser Asn Gln Phe Ala Phe Ala Val Asp Ser Ser Ser Asn  
 145 150 155 160  
 Lys Arg Leu Lys Pro Ser Ser Ser Pro Asp Ser Met Val Thr Ser Pro  
 165 170 175  
 Ser Pro Ala Gly Val Ile Gly Thr Thr Val Thr Thr Val Thr Glu Ser  
 180 185 190  
 Thr Arg Pro Leu Ile Leu Val Asp Ser Gln Asp Asn Gly Val Arg Leu  
 195 200 205  
 Val His Ala Leu Met Ala Cys Ala Glu Ala Val Gln Ser Ser Asn Leu  
 210 215 220  
 Thr Leu Ala Glu Ala Leu Val Lys Gln Ile Gly Phe Leu Ala Val Ser  
 225 230 235 240  
 Gln Ala Gly Ala Met Arg Lys Val Ala Thr Tyr Phe Ala Glu Ala Leu  
 245 250 255  
 Ala Arg Arg Ile Tyr Arg Leu Ser Pro Pro Gln Thr Gln Ile Asp His  
 260 265 270  
 Ser Leu Ser Asp Thr Leu Gln Met His Phe Tyr Glu Thr Cys Pro Tyr  
 275 280 285  
 Leu Lys Phe Ala His Phe Thr Ala Asn Gln Ala Ile Leu Glu Ala Phe  
 290 295 300  
 Glu Gly Lys Lys Arg Val His Val Ile Asp Phe Ser Met Asn Gln Gly  
 305 310 315 320  
 Leu Gln Trp Pro Ala Leu Met Gln Ala Leu Ala Leu Arg Glu Gly Gly  
 325 330 335  
 Pro Pro Ser Phe Arg Leu Thr Gly Ile Gly Pro Pro Ala Ala Asp Asn  
 340 345 350



Ser Asp His Leu His Glu Val Gly Cys Lys Leu Ala Gln Leu Ala Glu  
 355 360 365

Ala Ile His Val Glu Phe Glu Tyr Arg Gly Phe Val Ala Asn Ser Leu  
 370 375 380

Ala Asp Leu Asp Ala Ser Met Leu Glu Leu Arg Pro Ser Glu Thr Glu  
 385 390 395 400

Ala Val Ala Val Asn Ser Val Phe Glu Leu His Lys Leu Leu Gly Arg  
 405 410 415

Thr Gly Gly Ile Glu Lys Val Phe Gly Val Val Lys Gln Ile Lys Pro  
 420 425 430

Val Ile Phe Thr Val Val Glu Gln Glu Ser Asn His Asn Gly Pro Val  
 435 440 445

Phe Leu Asp Arg Phe Thr Glu Ser Leu His Tyr Tyr Ser Thr Leu Phe  
 450 455 460

Asp Ser Leu Glu Gly Ala Pro Ser Ser Gln Asp Lys Val Met Ser Glu  
 465 470 475 480

Val Tyr Leu Gly Lys Gln Ile Cys Asn Leu Val Ala Cys Glu Gly Pro  
 485 490 495

Asp Arg Val Glu Arg His Glu Thr Leu Ser Gln Trp Ser Asn Arg Phe  
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Val Glu Phe 385 Glu Tyr Arg 390 Gly Phe Val Ala 395 Asn Ser Leu Ala Asp Leu 400	
gat gct tcg atg ctt gag ctt aga ccg agc gat acg gaa gct gtt gcg	1248
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Ile Glu Lys 435 Val Leu Gly Val Val Lys Gln Ile Lys Pro 445 Val Ile Phe	
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Thr Val 450 Val Glu Gln Glu Ser 455 Asn His Asn Gly Pro 460 Val Phe Leu Asp	
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Gly Lys Gln 500 Ile Cys Asn Leu Val Ala 505 Cys Glu Gly Pro 510 Asp Arg Val	
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 Tyr Ser Trp Leu Asp Asn Met Leu Ser Glu Leu Asn Pro Pro Pro Leu  
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Tyr Thr Trp Leu Asp Ser Met Leu Thr Thr Asp Leu Asn Pro Pro Ser
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Asn Ala Glu Tyr Asp Leu Lys Ala Ile Pro Gly Asp Ala Ile Leu Asn
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Gln Phe Ala Ile Asp Ser Ala Ser Ser Ser Asn Gln Gly Gly Gly Gly
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gaa acc act aca gcg acg gct gag tca act cggt cat gtt gtc ctg gtt     480
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260                              265

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