

SEQUENCE LISTING

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<120> Sensing platform

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<170> PatentIn version 3.5

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<211> 583

<212> PRT

<213> Aspergillus niger

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Ile Glu Ser Gly Ser Tyr Glu Ser Asp Arg Gly Pro Ile Ile Glu Asp
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Leu Asn Ala Tyr Gly Asp Ile Phe Gly Ser Ser Val Asp His Ala Tyr
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Glu Thr Val Glu Leu Ala Thr Asn Asn Gln Thr Ala Leu Ile Arg Ser
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Gly Asn Gly Leu Gly Gly Ser Thr Leu Val Asn Gly Gly Thr Trp Thr
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Arg Pro His Lys Ala Gln Val Asp Ser Trp Glu Thr Val Phe Gly Asn
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Glu Gly Trp Asn Trp Asp Asn Val Ala Ala Tyr Ser Leu Gln Ala Glu
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Arg Ala Arg Ala Pro Asn Ala Lys Gln Ile Ala Ala Gly His Tyr Phe
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Asn Ala Ser Cys His Gly Val Asn Gly Thr Val His Ala Gly Pro Arg
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Asp Thr Gly Asp Asp Tyr Ser Pro Ile Val Lys Ala Leu Met Ser Ala
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Val Glu Asp Arg Gly Val Pro Thr Lys Lys Asp Phe Gly Cys Gly Asp
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Pro His Gly Val Ser Met Phe Pro Asn Thr Leu His Glu Asp Gln Val
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Arg Ser Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Gln Arg Pro
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Asn Leu Gln Val Leu Thr Gly Gln Tyr Val Gly Lys Val Leu Leu Ser
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Gln Asn Gly Thr Thr Pro Arg Ala Val Gly Val Glu Phe Gly Thr His
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Lys Gly Asn Thr His Asn Val Tyr Ala Lys His Glu Val Leu Leu Ala
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Ala Gly Ser Ala Val Ser Pro Thr Ile Leu Glu Tyr Ser Gly Ile Gly
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Met Lys Ser Ile Leu Glu Pro Leu Gly Ile Asp Thr Val Val Asp Leu
305 310 315 320

Pro Val Gly Leu Asn Leu Gln Asp Gln Thr Thr Ala Thr Val Arg Ser
325 330 335

Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly Gln Ala Ala Trp Phe Ala
340 345 350

Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ser Glu Lys Ala His Glu Leu

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365

Leu Asn Thr Lys Leu Glu Gln Trp Ala Glu Glu Ala Val Ala Arg Gly
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Gly Phe His Asn Thr Thr Ala Leu Leu Ile Gln Tyr Glu Asn Tyr Arg
 385 390 395 400

Asp Trp Ile Val Asn His Asn Val Ala Tyr Ser Glu Leu Phe Leu Asp
 405 410 415

Thr Ala Gly Val Ala Ser Phe Asp Val Trp Asp Leu Leu Pro Phe Thr
 420 425 430

Arg Gly Tyr Val His Ile Leu Asp Lys Asp Pro Tyr Leu His His Phe
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Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu Leu Asp Leu Leu Gly Gln
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Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile Ser Asn Ser Gly Ala Met
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 485 490 495

Asp Ala Asp Leu Ser Ala Trp Thr Glu Tyr Ile Pro Tyr His Phe Arg
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Pro Asn Tyr His Gly Val Gly Thr Cys Ser Met Met Pro Lys Glu Met
 515 520 525

Gly Gly Val Val Asp Asn Ala Ala Arg Val Tyr Gly Val Gln Gly Leu
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Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln Met Ser Ser His Val
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or selenol group, for example selenocysteine

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or selenol group, for example selenocysteine

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Gly Arg Thr Val Asp Tyr Ile Ile Ala Gly Gly Gly Leu Thr Gly Leu
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35 40 45

Ile Glu Ser Gly Ser Tyr Glu Ser Asp Arg Gly Pro Ile Ile Glu Asp
50 55 60

Leu Asn Ala Tyr Gly Asp Ile Phe Gly Ser Ser Val Asp His Ala Tyr
65 70 75 80

Glu Thr Val Glu Leu Ala Thr Asn Asn Gln Thr Ala Leu Ile Arg Ser
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Gly Asn Gly Leu Gly Gly Ser Thr Leu Val Asn Gly Gly Thr Trp Thr
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Arg Pro His Lys Ala Gln Val Asp Ser Trp Glu Thr Val Phe Gly Asn

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

Asn Ala Ser Cys His Gly Val Asn Gly Thr Val His Ala Gly Pro Arg
 165 170 175

Asp Thr Gly Asp Asp Tyr Ser Pro Ile Val Lys Ala Leu Met Ser Ala
 180 185 190

Val Glu Asp Arg Gly Val Pro Thr Lys Lys Asp Phe Gly Cys Gly Asp
 195 200 205

Pro His Gly Val Ser Met Phe Pro Asn Thr Leu His Glu Asp Gln Val
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Arg Ser Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Gln Arg Pro
 225 230 235 240

Asn Leu Gln Val Leu Thr Gly Gln Tyr Val Gly Lys Val Leu Leu Ser
 245 250 255

Gln Asn Gly Thr Thr Pro Arg Ala Val Gly Val Glu Phe Gly Thr His
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Lys Gly Asn Thr His Asn Val Tyr Ala Lys His Glu Val Leu Leu Ala
 275 280 285

Ala Gly Ser Ala Val Ser Pro Thr Ile Leu Glu Tyr Ser Gly Ile Gly
 290 295 300

Met Lys Ser Ile Leu Glu Pro Leu Gly Ile Asp Thr Val Val Asp Leu
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Pro Val Gly Leu Asn Leu Gln Asp Gln Thr Thr Ala Thr Val Arg Ser
 325 330 335

Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly Gln Ala Ala Trp Phe Ala
340 345 350

Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ser Glu Lys Ala His Glu Leu
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Leu Asn Thr Lys Leu Glu Gln Trp Ala Glu Glu Ala Val Ala Arg Gly
370 375 380

Gly Phe His Asn Thr Thr Ala Leu Leu Ile Gln Tyr Glu Asn Tyr Arg
385 390 395 400

Asp Trp Ile Val Asn His Asn Val Ala Tyr Ser Glu Leu Phe Leu Asp
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Thr Ala Gly Val Ala Ser Phe Asp Val Trp Asp Leu Leu Pro Phe Thr
420 425 430

Arg Gly Tyr Val His Ile Leu Asp Lys Asp Pro Tyr Leu His His Phe
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Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu Leu Asp Leu Leu Gly Gln
450 455 460

Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile Ser Asn Ser Gly Ala Met
465 470 475 480

Gln Thr Tyr Phe Ala Gly Glu Thr Ile Pro Gly Asp Asn Leu Ala Tyr
485 490 495

Asp Ala Asp Leu Ser Ala Trp Thr Glu Tyr Ile Pro Tyr His Phe Arg
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Pro Asn Tyr His Gly Val Gly Thr Cys Ser Met Met Pro Lys Glu Met
515 520 525

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530 535 540

Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln Met Ser Ser His Val

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Glu Asp Tyr Ala Ser Met Gln						
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Thr Thr Ala Ala Arg Leu Thr Glu Asn Pro Asn Ile Ser Val Leu Val						
	35		40		45	
Ile Glu Ser Gly Ser Tyr Glu Ser Asp Arg Gly Pro Ile Ile Glu Asp						
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Leu Asn Ala Tyr Gly Xaa Ile Phe Gly Ser Ser Val Asp His Ala Tyr						
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Glu Thr Val Glu Leu Ala Thr Asn Asn Gln Thr Ala Leu Ile Arg Ser						
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Arg Pro His Lys Ala Gln Val Asp Ser Trp Glu Thr Val Phe Gly Asn						

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Arg Ala Arg Ala Pro Asn Ala Lys Gln Ile Ala Ala Gly His Tyr Phe
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Asn Ala Ser Cys His Gly Val Asn Gly Thr Val His Ala Gly Pro Arg
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Asp Thr Gly Asp Asp Tyr Ser Pro Ile Val Lys Ala Leu Met Ser Ala
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Val Glu Asp Arg Gly Val Pro Thr Lys Lys Asp Phe Gly Cys Gly Asp
 195 200 205

Pro His Gly Val Ser Met Phe Pro Asn Thr Leu His Glu Asp Gln Val
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Arg Ser Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Gln Arg Pro
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Asn Leu Gln Val Leu Thr Gly Gln Tyr Val Gly Lys Val Leu Leu Ser
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Gln Asn Gly Thr Thr Pro Arg Ala Val Gly Val Glu Phe Gly Thr His
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Lys Gly Asn Thr His Asn Val Tyr Ala Lys His Glu Val Leu Leu Ala
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Met Lys Ser Ile Leu Glu Pro Leu Gly Ile Asp Thr Val Val Asp Leu
 305 310 315 320

Pro Val Gly Leu Asn Leu Gln Asp Gln Thr Thr Ala Thr Val Arg Ser
 325 330 335

Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly Gln Ala Ala Trp Phe Ala
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Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ser Glu Lys Ala His Glu Leu
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Leu Asn Thr Lys Leu Glu Gln Trp Ala Glu Glu Ala Val Ala Arg Gly
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Gly Phe His Asn Thr Thr Ala Leu Leu Ile Gln Tyr Glu Asn Tyr Arg
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Arg Gly Tyr Val His Ile Leu Asp Lys Asp Pro Tyr Leu His His Phe
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Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu Leu Asp Leu Leu Gly Gln
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Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile Ser Asn Ser Gly Ala Met
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Asp Ala Asp Leu Ser Ala Trp Thr Glu Tyr Ile Pro Tyr His Phe Arg
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Pro Asn Tyr His Gly Val Gly Thr Cys Ser Met Met Pro Lys Glu Met
515 520 525

Gly Gly Val Val Asp Asn Ala Ala Arg Val Tyr Gly Val Gln Gly Leu
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Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln Met Ser Ser His Val

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Thr Thr Ala Ala Arg Leu Thr Glu Asn Pro Asn Ile Ser Val Leu Val						
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Ile Glu Ser Gly Ser Tyr Glu Ser Asp Arg Gly Pro Ile Ile Glu Asp						
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Leu Asn Ala Tyr Gly Asp Ile Phe Gly Ser Ser Val Asp His Ala Tyr						
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Glu Thr Val Glu Leu Ala Thr Asn Asn Gln Thr Ala Leu Ile Arg Ser						
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Gly Asn Gly Leu Gly Gly Ser Thr Leu Val Asn Gly Gly Thr Trp Thr						
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Arg Pro His Lys Ala Gln Val Asp Ser Trp Glu Thr Val Phe Gly Asn						

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

Val Glu Asp Arg Gly Val Pro Thr Lys Lys Asp Phe Gly Cys Gly Asp
 195 200 205

Pro His Gly Val Ser Met Phe Pro Asn Thr Leu His Glu Asp Gln Val
 210 215 220

Arg Ser Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Gln Arg Pro
 225 230 235 240

Asn Leu Gln Val Leu Thr Gly Gln Tyr Val Gly Lys Val Leu Leu Ser
 245 250 255

Gln Asn Gly Thr Thr Pro Arg Ala Val Gly Val Glu Phe Gly Thr His
 260 265 270

Lys Gly Asn Thr His Asn Val Tyr Ala Lys His Glu Val Leu Leu Ala
 275 280 285

Ala Gly Ser Ala Val Ser Pro Thr Ile Leu Glu Tyr Ser Gly Ile Gly
 290 295 300

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

Pro Val Gly Leu Asn Leu Gln Asp Gln Thr Thr Ala Thr Val Arg Ser
 325 330 335

Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly Gln Ala Ala Trp Phe Ala
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Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ser Glu Lys Ala His Glu Leu
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Leu Asn Thr Lys Leu Glu Gln Trp Ala Glu Glu Ala Val Ala Arg Gly
370 375 380

Gly Phe His Asn Thr Thr Ala Leu Leu Ile Gln Tyr Glu Asn Tyr Arg
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Asp Trp Ile Val Asn His Asn Val Ala Tyr Ser Glu Leu Phe Leu Asp
405 410 415

Thr Xaa Gly Val Ala Ser Phe Asp Val Trp Asp Leu Leu Pro Phe Thr
420 425 430

Arg Gly Tyr Val His Ile Leu Asp Lys Asp Pro Tyr Leu His His Phe
435 440 445

Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu Leu Asp Leu Leu Gly Gln
450 455 460

Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile Ser Asn Ser Gly Ala Met
465 470 475 480

Gln Thr Tyr Phe Ala Gly Glu Thr Ile Pro Gly Asp Asn Leu Ala Tyr
485 490 495

Asp Ala Asp Leu Ser Ala Trp Thr Glu Tyr Ile Pro Tyr His Phe Arg
500 505 510

Pro Asn Tyr His Gly Val Gly Thr Cys Ser Met Met Pro Lys Glu Met
515 520 525

Gly Gly Val Val Asp Asn Ala Ala Arg Val Tyr Gly Val Gln Gly Leu
530 535 540

Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln Met Ser Ser His Val

545		550		555		560
Met Thr Val Phe Tyr Ala Met Ala Leu Lys Ile Ser Asp Ala Ile Leu						
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Glu Asp Tyr Ala Ser Met Gln						
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		20		25		30
Thr Thr Ala Ala Arg Leu Thr Glu Asn Pro Asn Ile Ser Val Leu Val						
		35		40		45
Ile Glu Ser Gly Ser Tyr Glu Ser Asp Arg Gly Pro Ile Ile Glu Asp						
		50		55		60
Leu Asn Ala Tyr Gly Asp Ile Phe Gly Ser Ser Val Asp His Ala Tyr						
65			70		75	80
Glu Thr Val Glu Leu Ala Thr Asn Asn Gln Thr Ala Leu Ile Arg Ser						
		85		90		95
Gly Asn Gly Leu Gly Gly Ser Thr Leu Val Asn Gly Gly Thr Trp Thr						
		100		105		110
Arg Pro His Lys Ala Gln Val Asp Ser Trp Glu Thr Val Phe Gly Asn						

115

120

125

Glu Gly Trp Asn Trp Asp Asn Val Ala Ala Tyr Ser Leu Gln Ala Glu
 130 135 140

Arg Ala Arg Ala Pro Asn Ala Lys Gln Ile Ala Ala Gly His Tyr Phe
 145 150 155 160

Asn Ala Ser Cys His Gly Val Asn Gly Thr Val His Ala Gly Pro Arg
 165 170 175

Asp Thr Gly Asp Asp Tyr Ser Pro Ile Val Lys Ala Leu Met Ser Ala
 180 185 190

Val Glu Asp Arg Gly Val Pro Thr Lys Lys Asp Phe Gly Cys Gly Asp
 195 200 205

Pro His Gly Val Ser Met Phe Pro Asn Thr Leu His Glu Asp Gln Val
 210 215 220

Arg Ser Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Gln Arg Pro
 225 230 235 240

Asn Leu Gln Val Leu Thr Gly Gln Tyr Val Gly Lys Val Leu Leu Ser
 245 250 255

Gln Asn Gly Thr Thr Pro Arg Ala Val Gly Val Glu Phe Gly Thr His
 260 265 270

Lys Gly Asn Thr His Asn Val Tyr Ala Lys His Glu Val Leu Leu Ala
 275 280 285

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

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

Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ser Glu Lys Ala His Glu Leu
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Leu Asn Thr Lys Leu Glu Gln Trp Ala Glu Glu Ala Val Ala Arg Gly
370 375 380

Gly Phe His Asn Thr Thr Ala Leu Leu Ile Gln Tyr Glu Asn Tyr Arg
385 390 395 400

Asp Trp Ile Val Asn His Asn Val Ala Tyr Ser Glu Leu Phe Leu Asp
405 410 415

Thr Ala Gly Val Ala Ser Phe Asp Val Trp Asp Leu Leu Pro Phe Thr
420 425 430

Arg Gly Tyr Val His Ile Leu Asp Lys Asp Pro Tyr Leu Xaa His Phe
435 440 445

Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu Leu Asp Leu Leu Gly Gln
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Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile Ser Asn Ser Gly Ala Met
465 470 475 480

Gln Thr Tyr Phe Ala Gly Glu Thr Ile Pro Gly Asp Asn Leu Ala Tyr
485 490 495

Asp Ala Asp Leu Ser Ala Trp Thr Glu Tyr Ile Pro Tyr His Phe Arg
500 505 510

Pro Asn Tyr His Gly Val Gly Thr Cys Ser Met Met Pro Lys Glu Met
515 520 525

Gly Gly Val Val Asp Asn Ala Ala Arg Val Tyr Gly Val Gln Gly Leu
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Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln Met Ser Ser His Val

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

Tyr Ser Leu Gln Ala Glu Arg Ala Arg Ala Pro Asn Ala Lys Gln Ile
165 170 175

Ala Ala Gly His Tyr Phe Asn Ala Ser Cys His Gly Val Asn Gly Thr
180 185 190

Val His Ala Gly Pro Arg Asp Thr Gly Asp Asp Tyr Ser Pro Ile Val
195 200 205

Lys Ala Leu Met Ser Ala Val Glu Asp Arg Gly Val Pro Thr Lys Lys
210 215 220

Asp Phe Gly Cys Gly Asp Pro His Gly Val Ser Met Phe Pro Asn Thr
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Leu His Glu Asp Gln Val Arg Ser Asp Ala Ala Arg Glu Trp Leu Leu
245 250 255

Pro Asn Tyr Gln Arg Pro Asn Leu Gln Val Leu Thr Gly Gln Tyr Val
260 265 270

Gly Lys Val Leu Leu Ser Gln Asn Gly Thr Thr Pro Arg Ala Val Gly
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Val Glu Phe Gly Thr His Lys Gly Asn Thr His Asn Val Tyr Ala Lys
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His Glu Val Leu Leu Ala Ala Gly Ser Ala Val Ser Pro Thr Ile Leu
305 310 315 320

Glu Tyr Ser Gly Ile Gly Met Lys Ser Ile Leu Glu Pro Leu Gly Ile
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Asp Thr Val Val Asp Leu Pro Val Gly Leu Asn Leu Gln Asp Gln Thr
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Thr Ala Thr Val Arg Ser Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly
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Gln Ala Ala Trp Phe Ala Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ser
370 375 380

Glu Lys Ala His Glu Leu Leu Asn Thr Lys Leu Glu Gln Trp Ala Glu
385 390 395 400

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

Gln Tyr Glu Asn Tyr Arg Asp Trp Ile Val Asn His Asn Val Ala Tyr
420 425 430

Ser Glu Leu Phe Leu Asp Thr Ala Gly Val Ala Ser Phe Asp Val Trp
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Asp Leu Leu Pro Phe Thr Arg Gly Tyr Val His Ile Leu Asp Lys Asp
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Pro Tyr Leu His His Phe Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu
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Leu Asp Leu Leu Gly Gln Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile
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Ser Asn Ser Gly Ala Met Gln Thr Tyr Phe Ala Gly Glu Thr Ile Pro
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Gly Asp Asn Leu Ala Tyr Asp Ala Asp Leu Ser Ala Trp Thr Glu Tyr
515 520 525

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