

SEQUENCE LISTING

<110> Zhang, Lian Hui

Lin, Yi Han

Xu, Jin Ling

<120> RALSTONIA AHL-ACYLASE GENE

<130> 2577-154 PCT

<160> 7

<170> PatentIn version 3.0

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<211> 3743

<212> DNA

<213> Ralstonia sp.

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<223> unknown

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gtgctgactt ccagcaggtg gcaggcgcg tccacgcgca gccggtgcag caattgcagc	240

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3743

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<212> PRT

<213> *Ralstonia* sp.

<400> 2

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 35 40 45

Ile Pro His Ile Arg Ala Asn Asp Tyr Ala Ser Leu Gly Tyr Gly Met
 50 55 60

Ala Tyr Ala Tyr Ala Gln Asp Asn Leu Cys Leu Leu Ala Asp Gln Val
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Val Thr Val Asn Gly Glu Arg Ser Lys Thr Phe Gly Pro Glu Gly Thr
 85 90 95

Val Thr Val Ser Phe Lys Pro Ile Pro Asn Leu Gln Ser Asp Ala Phe
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Phe Lys Gly Ile Phe Asp Glu Asp Gly Leu Arg Ala Gly Tyr Ala Gln
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Met Ser Pro Glu Ala Arg Glu Leu Leu Arg Gly Tyr Ile Ala Gly Phe
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Asn Arg Tyr Leu Lys Asp Thr Pro Pro Ala Asn Phe Pro Ala Ala Cys
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Arg Asn Ala Ala Trp Val Arg Pro Leu Thr Leu Gly Asp Met Met Arg
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Met Gly Glu Glu Lys Ala Ile Gln Ala Ser Ala Gly Ala Met Leu Ala
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Gly Ile Val Ala Ala Gln Pro Pro Gly Arg Thr Pro Val Ala Glu Arg
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Glu Ile Pro Pro Gln Ala Val Asp Thr Val Ala Leu Asp Arg Glu Leu
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 Asp Ala Thr Ala Asn Arg Arg Gly Val Leu Leu Gly Asn Pro His Phe
 245 250 255
 Pro Trp Thr Thr Thr Asn Arg Phe Tyr Gln Val His Leu Thr Val Pro
 260 265 270
 Gly Lys Leu Asp Val Met Gly Ala Ser Ile Ala Ala Phe Pro Val Val
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 Ser Ile Gly Phe Asn Lys Asp Val Ala Trp Thr His Thr Val Ser Thr
 290 295 300
 Gly Arg Arg Phe Thr Leu Phe Glu Leu Lys Leu Ala Glu Gly Asp Pro
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 Thr Thr Tyr Leu Val Asp Gly Thr Pro His Lys Met Thr Thr Arg Thr
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 Val Ala Phe Asp Val Lys Leu Pro Asp Gly Arg Leu Glu Arg Arg Thr
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 His Thr Phe Tyr Asp Thr Ile Tyr Gly Pro Val Leu Ser Met Pro Ser
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 Gly Gly Met Pro Trp Thr Thr Gln Lys Ala Tyr Ala Leu Arg Asp Ala
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 Asn Arg Asn Asn Thr Arg Ser Val Asp Ser Trp Leu His Ile Gly Gln
 385 390 395 400
 Ala Arg Asp Val Ala Gly Ile Arg Gln Ala Ile Gly Asn Leu Gly Ile
 405 410 415
 Pro Trp Val Asn Thr Ile Ala Thr Asp Arg Asn Gly Arg Ala Leu Phe
 420 425 430
 Ala Asp Val Ser Thr Thr Pro Asp Val Pro Ala Ala Glu Leu Gln Arg
 435 440 445
 Cys Ala Pro Ser Pro Leu Ala Gly Lys Leu Phe Lys Asp Ala Gly Leu
 450 455 460
 Val Leu Leu Asp Gly Ser Arg Gly Thr Cys Asn Trp Gln Val Asp Pro
 465 470 475 480
 Ala Ser Pro Val Pro Gly Leu Val Ala Pro Ala Arg Met Pro Val Leu
 485 490 495
 Glu Arg Asp Asp Tyr Val Ala Asn Ser Asn Asp Ser Ser Trp Leu Thr
 500 505 510
 Asn Pro Ala Gln Lys Leu Thr Gly Phe Ser Pro Val Met Gly Ser Val
 515 520 525

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Asp Val Pro Gln Arg Leu Arg Thr Arg Ile Gly Leu Ile Glu Ile Gly
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Arg Arg Leu Ala Gly Thr Asp Gly Leu Pro Gly Asn Arg Ile Asp Leu
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Pro Asn Leu Gln Ala Met Ile Phe Ser Asn Ala Asn Leu Ala Gly Gln
 565 570 575

Leu Val Leu Gly Asp Leu Leu Ala Ala Cys Lys Ala Thr Pro Ala Pro
 580 585 590

Asp Ala Asp Val Arg Asp Gly Cys Ala Ala Leu Gly Gln Trp Asn Arg
 595 600 605

Thr Ser Asn Ala Asp Ala Arg Ala Ala His Leu Phe Arg Glu Phe Trp
 610 615 620

Met Arg Ala Lys Asp Ile Ala Gln Val His Ala Val Glu Phe Asp Pro
 625 630 635 640

Ala Asp Pro Val His Thr Pro Arg Gly Leu Arg Met Asn Asp Ala Thr
 645 650 655

Val Arg Thr Ala Val Phe Lys Ala Leu Lys Glu Ala Val Gly Ala Val
 660 665 670

Arg Lys Ala Gly Phe Ala Leu Asp Ala Pro Leu Gly Thr Val Gln Ala
 675 680 685

Ala His Ala Pro Asp Gly Ser Ile Ala Leu His Gly Gly Glu Glu Tyr
 690 695 700

Glu Gly Val Leu Asn Lys Leu Gln Thr Leu Pro Ile Gly Pro Lys Gly
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Leu Pro Val Tyr Phe Gly Thr Ser Tyr Ile Gln Thr Val Thr Phe Asp
 725 730 735

Asp Gln Gly Pro Val Ala Asp Ala Ile Leu Thr Tyr Gly Glu Ser Thr
 740 745 750

Asp His Ala Ser Pro His Ala Phe Asp Gln Met Arg Ala Tyr Ser Gly
 755 760 765

Lys His Trp Asn Arg Leu Pro Phe Ser Glu Ala Ala Ile Ala Ala Asp
 770 775 780

Pro Ala Leu Lys Val Met Arg Leu Ser Gln
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<210> 3

<211> 785

<212> PRT

<213> D. radiodurans

<400> 3

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 35 40 45
 His Ile Gln Ala Ser Asp Leu Gly Gly Ile Gly Tyr Gly Val Gly Tyr
 50 55 60
 Ser Tyr Ala Gln Asp Asn Leu Cys Leu Leu Ala Asp Gln Val Met Thr
 65 70 75 80
 Val Arg Gly Glu Arg Ser Lys Phe Leu Gly Ala Glu Gly Lys Thr Val
 85 90 95
 Val Gly Phe Gln Pro Val Asn Asn Leu Asp Ser Asp Val Phe Phe Lys
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 Thr Val Ile Glu Pro Gly Arg Leu Gln Ala Gly Tyr Arg Asp Gln Pro
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 Gln Ile Leu Ala Leu Met Arg Gly Tyr Val Ala Gly Val Asn Arg Tyr
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 Leu Arg Asp Thr Pro Pro Glu Gln Trp Pro Ser Ala Cys Arg Asn Ala
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 Asp Trp Val Arg Pro Leu Thr Glu Leu Asp Val Met Arg Leu Gly Glu
 165 170 175
 Glu Lys Ala Ile Gln Ala Ser Ala Gly Ala Met Val Ser Ala Ile Thr
 180 185 190
 Ser Ala Arg Pro Pro Gln Ala Gly Ala Ser Thr Ala Ala Pro Arg Pro
 195 200 205
 Asp Leu Ala Ala Phe Asn Arg Gln Tyr Arg Phe Asn Asp Leu Pro Ile
 210 215 220
 Gly Ser Asn Gly Trp Ala Phe Gly Ser Glu Ala Thr Thr Asn Gly Arg
 225 230 235 240

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Gly Leu Leu Leu Gly Asn Pro His Phe Pro Trp Glu Thr Ser Asn Arg
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 Phe Tyr Gln Leu His Leu Thr Leu Pro Gly Gln Phe Asp Val Met Gly
 260 265 270
 Ala Ser Leu Gly Gly Met Pro Val Val Asn Ile Gly Phe Asn Gln Asp
 275 280 285
 Val Ala Trp Thr His Thr Val Ser Thr Asp Lys Arg Phe Thr Leu Ala
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 Ala Leu Thr Leu Val Pro Gly Asp Pro Leu Ser Tyr Val Lys Asp Gly
 305 310 315 320
 Gln Gln Arg Arg Leu Gln Arg Arg Thr Ala Val Ile Glu Val Lys Thr
 325 330 335
 Ala Asn Gly Pro Arg Leu His Thr Arg Thr Val Tyr Phe Thr Pro Glu
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 Gly Pro Leu Val Asn Leu Pro Ala Ala Gly Leu Thr Trp Thr Pro Gln
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 Tyr Ala Phe Ala Leu Arg Asp Ala Asn Arg Asn Asn Thr Arg Met Leu
 370 375 380
 Ala Thr Trp Leu Gly Phe Ala Gly Ala Lys Ser Val Arg Asp Ile Arg
 385 390 395 400
 Ala Ser Leu Asn Val Gln Gly Ile Pro Trp Val Asn Thr Ile Ala Ala
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 Asp Arg Ala Gly Ser Ala Leu Tyr Ala Asp Ile Ser Ser Ser Pro Asn
 420 425 430
 Val Ser Ala Ala Gln Gln Gln Ala Cys Thr Pro Pro Pro Leu Ala Pro
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 Leu Phe Pro Ala Ala Gly Leu Ala Val Leu Asp Gly Ser His Ser Ala
 450 455 460
 Cys Asp Trp Lys Thr Asp Pro Ala Ser Arg Val Pro Gly Leu Arg Ala
 465 470 475 480
 Pro Asp Lys Met Pro Val Leu Ile Arg Gln Asp Phe Val Ala Asn Ser
 485 490 495
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 Met Gly Leu Leu Glu Ile Gly Arg Arg Leu Ser Gly Thr Asp Gly Leu
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 Glu Ser Asn Leu Thr Gly Glu Met Tyr Ala Ala Asp Ala Ala Lys Leu
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 Cys Gln Ser Ala Gly Gly Ala Glu Leu Gln Pro Ala Cys Asn Ala Leu
 580 585 590
 Ala Ala Trp Asp Arg Arg Ser Ser Gln Glu Ser Arg Gly Ala Ala Leu
 595 600 605
 Trp Arg Glu Phe Trp Arg Arg Ala Arg Ala Ile Pro Asn Val Tyr Ala
 610 615 620
 Val Pro Phe Asp Pro Ala Asp Pro Val Asn Thr Pro Arg Gly Leu Asn
 625 630 635 640
 Thr Ala Asp Pro Ala Ala Gln Thr Ala Leu Leu Gly Ala Leu Arg Glu
 645 650 655
 Ala Ala Ala Ala Leu Thr Ala Ala Gly Ile Pro Phe Asp Ala Pro Leu
 660 665 670
 Gly Glu Val Gln Gly Val Val Arg Gly Gly Asp Phe Ile Ser Leu Pro
 675 680 685
 Gly Gly Ala Glu Phe Glu Gly Val Leu Asp Lys Ile Asp Phe Asn Pro
 690 695 700
 Leu Ala Pro Gly Gly Tyr Arg Gly Val Val Gly Asn Ala Ser Ser Tyr
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 Ile Gln Thr Val Gly Phe Thr Asp Ser Gly Val Gln Ala Glu Ala Val
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 Leu Thr Tyr Ser Gln Ser Ser Asn Pro Glu Ser Pro Tyr Phe Ser Asp
 740 745 750
 Gln Thr Arg Leu Phe Ser Arg Ser Glu Trp Val Lys Leu Pro Phe Thr
 755 760 765
 Gln Pro Glu Ile Glu Ala Asp Pro Thr Arg Thr Val Val Gln Leu Ser
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 Glu
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<210> 4

<211> 786

<212> PRT

<213> A. utahensis

<400> 4

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35          40          45
Pro His Ile Thr Ala Asp Asp Phe Gly Ser Leu Gly Phe Gly Val Gly
50          55          60
Tyr Val Gln Ala Glu Asp Asn Ile Cys Val Ile Ala Glu Ser Val Val
65          70          75          80
Thr Ala Asn Gly Glu Arg Ser Arg Trp Phe Gly Ala Thr Gly Pro Asp
85          90          95
Asp Ala Asp Val Arg Thr Thr Ser Ser Thr Gln Ala Ile Asp Asp Arg
100         105         110
Val Ala Glu Arg Leu Leu Glu Gly Pro Arg Asp Gly Val Arg Ala Pro
115         120         125
Cys Asp Asp Val Arg Asp Gln Met Arg Gly Phe Val Ala Gly Tyr Asn
130         135         140
His Phe Leu Arg Arg Thr Gly Val His Arg Leu Thr Asp Pro Ala Cys
145         150         155         160
Arg Gly Lys Ala Trp Val Arg Pro Leu Ser Glu Ile Asp Leu Trp Arg
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Thr Ser Trp Asp Ser Met Val Arg Ala Gly Ser Gly Ala Leu Leu Asp
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Gly Ile Val Ala Ala Thr Pro Pro Thr Ala Ala Gly Pro Ala Ser Ala
195         200         205
Pro Glu Ala Pro Asp Ala Ala Ala Ile Ala Ala Ala Leu Asp Gly Thr
210         215         220
Ser Ala Gly Ile Gly Ser Asn Ala Tyr Gly Leu Gly Ala Gln Ala Thr
225         230         235         240

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Val Asn Gly Ser Gly Met Val Leu Ala Asn Pro His Phe Pro Trp Gln
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 Gly Ala Glu Arg Phe Tyr Arg Met His Leu Lys Val Pro Gly Arg Tyr
 260 265 270
 Asp Val Glu Gly Ala Ala Leu Ile Gly Asp Pro Ile Ile Glu Ile Gly
 275 280 285
 His Asn Arg Thr Val Ala Trp Ser His Thr Val Ser Thr Ala Arg Arg
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 Phe Val Trp His Arg Leu Ser Leu Val Pro Gly Asp Pro Thr Ser Tyr
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 Tyr Val Asp Gly Arg Pro Glu Arg Met Arg Ala Arg Thr Val Thr Val
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 Gln Thr Gly Ser Gly Pro Val Ser Arg Thr Phe His Asp Thr Arg Tyr
 340 345 350
 Gly Pro Val Ala Val Val Pro Gly Thr Phe Asp Trp Thr Pro Ala Thr
 355 360 365
 Ala Tyr Ala Ile Thr Asp Val Asn Ala Gly Asn Asn Arg Ala Phe Asp
 370 375 380
 Gly Trp Leu Arg Met Gly Gln Ala Lys Asp Val Arg Ala Leu Lys Ala
 385 390 395 400
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 Asp Ala Arg Gly Glu Ala Leu Tyr Gly Asp His Ser Val Val Pro Arg
 420 425 430
 Val Thr Gly Ala Leu Ala Ala Ala Cys Ile Pro Ala Pro Phe Gln Pro
 435 440 445
 Leu Tyr Ala Ser Ser Gly Gln Ala Val Leu Asp Gly Ser Arg Ser Asp
 450 455 460
 Cys Ala Leu Gly Ala Asp Pro Asp Ala Ala Val Pro Gly Ile Leu Gly
 465 470 475 480
 Pro Ala Ser Leu Pro Val Arg Phe Arg Asp Asp Tyr Val Thr Asn Ser
 485 490 495
 Asn Asp Ser His Trp Leu Ala Ser Pro Ala Ala Pro Leu Glu Gly Phe
 500 505 510
 Pro Arg Ile Leu Gly Asn Glu Arg Thr Pro Arg Ser Leu Arg Thr Arg
 515 520 525
 Leu Gly Leu Asp Gln Ile Gln Gln Arg Leu Ala Gly Thr Asp Gly Leu
 530 535 540

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Pro Gly Lys Gly Phe Thr Thr Ala Arg Leu Trp Gln Val Met Phe Gly
 545 550 555 560
 Asn Arg Met His Gly Ala Glu Leu Val Arg Asp Asp Leu Val Ala Leu
 565 570 575
 Cys Arg Arg Gln Pro Thr Ala Thr Ala Ser Asn Gly Ala Ile Val Asp
 580 585 590
 Leu Thr Ala Ala Cys Thr Ala Leu Ser Arg Phe Asp Glu Arg Ala Asp
 595 600 605
 Leu Asp Ser Arg Gly Ala His Leu Phe Thr Glu Phe Leu Ala Gly Gly
 610 615 620
 Ile Arg Phe Ala Asp Thr Phe Glu Val Thr Asp Pro Val Arg Thr Pro
 625 630 635 640
 Ala Pro Phe Trp Asn Thr Thr Asp Pro Arg Val Arg Thr Ala Leu Ala
 645 650 655
 Asp Ala Cys Asn Gly Ser Pro Ala Ser Pro Ser Thr Arg Ser Val Gly
 660 665 670
 Asp Ile His Thr Asp Ser Arg Gly Glu Arg Arg Ile Pro Ile His Gly
 675 680 685
 Gly Arg Gly Glu Ala Gly Thr Phe Asn Val Ile Thr Asn Pro Leu Val
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 Pro Gly Val Gly Tyr Pro Gln Val Val His Gly Thr Ser Phe Val Met
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 Tyr Ala Gln Ser Thr Asn Pro Asn Ser Pro Trp Tyr Ala Asp Gln Thr
 740 745 750
 Val Leu Tyr Ser Arg Lys Gly Trp Asp Thr Ile Lys Tyr Thr Glu Ala
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 Gly Arg
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<210> 5

<211> 777

<212> PRT

<213> *P. aeruginosa*

<400> 5

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35 40 45

Asp Ile Arg Trp Thr Ala Tyr Gly Val Pro His Ile Arg Ala Lys Asp
50 55 60

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

Ala Cys Leu Leu Ala Glu Glu Ile Val Thr Ala Arg Gly Glu Arg Ala
85 90 95

Arg Tyr Phe Gly Ser Glu Gly Lys Ser Ser Ala Glu Leu Asp Asn Leu
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Pro Ser Asp Ile Phe Tyr Ala Trp Leu Asn Gln Pro Glu Ala Leu Gln
115 120 125

Ala Phe Trp Gln Ala Gln Thr Pro Ala Val Arg Gln Leu Leu Glu Gly
130 135 140

Tyr Ala Ala Gly Phe Asn Arg Phe Leu Arg Glu Ala Asp Gly Lys Thr
145 150 155 160

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

Leu Leu Arg Leu Thr Arg Arg Leu Leu Val Glu Gly Gly Val Gly Gln
180 185 190

Phe Ala Asp Ala Leu Val Ala Ala Ala Pro Pro Gly Ala Glu Lys Val
195 200 205

Ala Leu Ser Gly Glu Gln Ala Phe Gln Val Ala Glu Gln Arg Arg Gln
210 215 220

Arg Phe Arg Leu Glu Arg Gly Ser Asn Ala Ile Ala Val Gly Ser Glu
225 230 235 240

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 Trp Asn Gly Ala Met Arg Phe Tyr Gln Met His Leu Thr Ile Pro Gly
 260 265 270
 Arg Leu Asp Val Met Gly Ala Ser Leu Pro Gly Leu Pro Val Val Asn
 275 280 285
 Ile Gly Phe Ser Arg His Leu Ala Trp Thr His Thr Val Asp Thr Ser
 290 295 300
 Ser His Phe Thr Leu Tyr Arg Leu Ala Leu Asp Pro Lys Asp Pro Arg
 305 310 315 320
 Arg Tyr Leu Val Asp Gly Arg Ser Leu Pro Leu Glu Glu Lys Ser Val
 325 330 335
 Ala Ile Glu Val Arg Gly Ala Asp Gly Lys Leu Ser Arg Val Glu His
 340 345 350
 Lys Val Tyr Gln Ser Ile Tyr Gly Pro Leu Val Val Trp Pro Gly Lys
 355 360 365
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 370 375 380
 Glu Asn Thr Arg Val Leu Gln Gln Trp Tyr Ser Ile Asn Gln Ala Ser
 385 390 395 400
 Asp Val Ala Asp Leu Arg Arg Arg Val Glu Ala Leu Gln Gly Ile Pro
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 Trp Val Asn Thr Leu Ala Ala Asp Glu Gln Gly Asn Ala Leu Tyr Met
 420 425 430
 Asn Gln Ser Val Val Pro Tyr Leu Lys Pro Glu Leu Ile Pro Ala Cys
 435 440 445
 Ala Ile Pro Gln Leu Val Ala Glu Gly Leu Pro Ala Leu Gln Gly Gln
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 465 470 475 480
 Ile Thr Pro Ala Ala Gln Leu Pro Val Leu Leu Arg Arg Asp Phe Val
 485 490 495
 Gln Asn Ser Asn Asp Ser Ala Trp Leu Thr Asn Pro Ala Ser Pro Leu
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 Gln Gly Phe Ser Pro Leu Val Ser Gln Glu Lys Pro Ile Gly Pro Arg
 515 520 525
 Ala Arg Tyr Ala Leu Ser Arg Leu Gln Gly Lys Gln Pro Leu Glu Ala
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Lys Thr Leu Glu Glu Met Val Thr Ala Asn His Val Phe Ser Ala Asp
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 Gln Val Leu Pro Asp Leu Leu Arg Leu Cys Arg Asp Asn Gln Gly Glu
 565 570 575
 Lys Ser Leu Ala Arg Ala Cys Ala Ala Leu Ala Gln Trp Asp Arg Gly
 580 585 590
 Ala Asn Leu Asp Ser Gly Ser Gly Phe Val Tyr Phe Gln Arg Phe Met
 595 600 605
 Gln Arg Phe Ala Glu Leu Asp Gly Ala Trp Lys Glu Pro Phe Asp Ala
 610 615 620
 Gln Arg Pro Leu Asp Thr Pro Gln Gly Ile Ala Leu Asp Arg Pro Gln
 625 630 635 640
 Val Ala Thr Gln Val Arg Gln Ala Leu Ala Asp Ala Ala Ala Glu Val
 645 650 655
 Glu Lys Ser Gly Ile Pro Asp Gly Ala Arg Trp Gly Asp Leu Gln Val
 660 665 670
 Ser Thr Arg Gly Gln Glu Arg Ile Ala Ile Pro Gly Gly Asp Gly His
 675 680 685
 Phe Gly Val Tyr Asn Ala Ile Gln Ser Val Arg Lys Gly Asp His Leu
 690 695 700
 Glu Val Val Gly Gly Thr Ser Tyr Ile Gln Leu Val Thr Phe Pro Glu
 705 710 715 720
 Glu Gly Pro Lys Ala Arg Gly Leu Leu Ala Phe Ser Gln Ser Ser Asp
 725 730 735
 Pro Arg Ser Pro His Tyr Arg Asp Gln Thr Glu Leu Phe Ser Arg Gln
 740 745 750
 Gln Trp Gln Thr Leu Pro Phe Ser Asp Arg Gln Ile Asp Ala Asp Pro
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32