

PhoenixTemp23566.tmp.txt
SEQUENCE LISTING

<110> Novozymes A/S
<120> Method for producing potato products
<130> 11016
<160> 2
<170> PatentIn version 3.4
<210> 1
<211> 829
<212> PRT
<213> Bacillus acidopullulyticus
<400> 1
Asp Ser Thr Ser Thr Glu Val Ile Val His Tyr His Arg Phe Asp Ser
1 5 10 15
Asn Tyr Ala Asn Trp Asp Leu Trp Met Trp Pro Tyr Gln Pro Val Asn
20 25 30
Gly Asn Gly Ala Ala Tyr Glu Phe Ser Gly Lys Asp Asp Phe Gly Val
35 40 45
Lys Ala Asp Val Gln Val Pro Gly Asp Asp Thr Gln Val Gly Leu Ile
50 55 60
Val Arg Thr Asn Asp Trp Ser Gln Lys Asn Thr Ser Asp Asp Leu His
65 70 75 80
Ile Asp Leu Thr Lys Gly His Glu Ile Trp Ile Val Gln Gly Asp Pro
85 90 95
Asn Ile Tyr Tyr Asn Leu Ser Asp Ala Gln Ala Ala Ala Thr Pro Lys
100 105 110
Val Ser Asn Ala Tyr Leu Asp Asn Glu Lys Thr Val Leu Ala Lys Leu
115 120 125
Thr Asn Pro Met Thr Leu Ser Asp Gly Ser Ser Gly Phe Thr Val Thr
130 135 140
Asp Lys Thr Thr Gly Glu Gln Ile Pro Val Thr Ala Ala Thr Asn Ala
145 150 155 160
Asn Ser Ala Ser Ser Ser Glu Gln Thr Asp Leu Val Gln Leu Thr Leu
165 170 175
Ala Ser Ala Pro Asp Val Ser His Thr Ile Gln Val Gly Ala Ala Gly
180 185 190
Tyr Glu Ala Val Asn Leu Ile Pro Arg Asn Val Leu Asn Leu Pro Arg
195 200 205

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Tyr Tyr Tyr Ser Gly Asn Asp Leu Gly Asn Val Tyr Ser Asn Lys Ala
 210 215 220
 Thr Ala Phe Arg Val Trp Ala Pro Thr Ala Ser Asp Val Gln Leu Leu
 225 230 235 240
 Leu Tyr Asn Ser Glu Thr Gly Pro Val Thr Lys Gln Leu Glu Met Gln
 245 250 255
 Lys Ser Asp Asn Gly Thr Trp Lys Leu Lys Val Pro Gly Asn Leu Lys
 260 265 270
 Asn Trp Tyr Tyr Leu Tyr Gln Val Thr Val Asn Gly Lys Thr Gln Thr
 275 280 285
 Ala Val Asp Pro Tyr Val Arg Ala Ile Ser Val Asn Ala Thr Arg Gly
 290 295 300
 Met Ile Val Asp Leu Glu Asp Thr Asn Pro Pro Gly Trp Lys Glu Asp
 305 310 315 320
 His Gln Gln Thr Pro Ala Asn Pro Val Asp Glu Val Ile Tyr Glu Val
 325 330 335
 His Val Arg Asp Phe Ser Ile Asp Ala Asn Ser Gly Met Lys Asn Lys
 340 345 350
 Gly Lys Tyr Leu Ala Phe Thr Glu His Gly Thr Lys Gly Pro Asp Asn
 355 360 365
 Val Lys Thr Gly Ile Asp Ser Leu Lys Glu Leu Gly Ile Asn Ala Val
 370 375 380
 Gln Leu Gln Pro Ile Glu Glu Phe Asn Ser Ile Asp Glu Thr Gln Pro
 385 390 395 400
 Asn Met Tyr Asn Trp Gly Tyr Asp Pro Arg Asn Tyr Asn Val Pro Glu
 405 410 415
 Gly Ala Tyr Ala Thr Thr Pro Glu Gly Thr Ala Arg Ile Thr Gln Leu
 420 425 430
 Lys Gln Leu Ile Gln Ser Ile His Lys Asp Arg Ile Ala Ile Asn Met
 435 440 445
 Asp Val Val Tyr Asn His Thr Phe Asn Val Gly Val Ser Asp Phe Asp
 450 455 460
 Lys Ile Val Pro Gln Tyr Tyr Tyr Arg Thr Asp Ser Ala Gly Asn Tyr
 465 470 475 480

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Thr Asn Gly Ser Gly Val Gly Asn Glu Ile Ala Thr Glu Arg Pro Met
485 490 495

Val Gln Lys Phe Val Leu Asp Ser Val Lys Tyr Trp Val Lys Glu Tyr
500 505 510

His Ile Asp Gly Phe Arg Phe Asp Leu Met Ala Leu Leu Gly Lys Asp
515 520 525

Thr Met Ala Lys Ile Ser Lys Glu Leu His Ala Ile Asn Pro Gly Ile
530 535 540

Val Leu Tyr Gly Glu Pro Trp Thr Gly Gly Thr Ser Gly Leu Ser Ser
545 550 555 560

Asp Gln Leu Val Thr Lys Gly Gln Gln Lys Gly Leu Gly Ile Gly Val
565 570 575

Phe Asn Asp Asn Ile Arg Asn Gly Leu Asp Gly Asn Val Phe Asp Lys
580 585 590

Ser Ala Gln Gly Phe Ala Thr Gly Asp Pro Asn Gln Val Asn Val Ile
595 600 605

Lys Asn Arg Val Met Gly Ser Ile Ser Asp Phe Thr Ser Ala Pro Ser
610 615 620

Glu Thr Ile Asn Tyr Val Thr Ser His Asp Asn Met Thr Leu Trp Asp
625 630 635 640

Lys Ile Ser Ala Ser Asn Pro Asn Asp Thr Gln Ala Asp Arg Ile Lys
645 650 655

Met Asp Glu Leu Ala Gln Ala Val Val Phe Thr Ser Gln Gly Val Pro
660 665 670

Phe Met Gln Gly Gly Glu Glu Met Leu Arg Thr Lys Gly Gly Asn Asp
675 680 685

Asn Ser Tyr Asn Ala Gly Asp Ser Val Asn Gln Phe Asp Trp Ser Arg
690 695 700

Lys Ala Gln Phe Glu Asn Val Phe Asp Tyr Tyr Ser Trp Leu Ile His
705 710 715 720

Leu Arg Asp Asn His Pro Ala Phe Arg Met Thr Thr Ala Asp Gln Ile
725 730 735

Lys Gln Asn Leu Thr Phe Leu Asp Ser Pro Thr Asn Thr Val Ala Phe
740 745 750

Glu Leu Lys Asn His Ala Asn His Asp Lys Trp Lys Asn Ile Ile Val
755 760 765

Met Tyr Asn Pro Asn Lys Thr Ala Gln Thr Leu Thr Leu Pro Ser Gly
770 775 780

Asn Trp Thr Ile Val Gly Leu Gly Asn Gln Val Gly Glu Lys Ser Leu
785 790 795 800

Gly His Val Asn Gly Thr Val Glu Val Pro Ala Leu Ser Thr Ile Ile
805 810 815

Leu His Gln Gly Thr Ser Glu Asp Val Ile Asp Gln Asn
820 825

<210> 2

<211> 969

<212> PRT

<213> Bacillus acidopullulyticus with CBM

<400> 2

Met Ser Leu Ile Arg Ser Arg Tyr Asn His Phe Val Ile Leu Phe Thr
1 5 10 15

Val Ala Ile Met Phe Leu Thr Val Cys Phe Pro Ala Tyr Lys Ala Leu
20 25 30

Ala Asp Ser Thr Ser Thr Glu Val Ile Val His Tyr His Arg Phe Asp
35 40 45

Ser Asn Tyr Ala Asn Trp Asp Leu Trp Met Trp Pro Tyr Gln Pro Val
50 55 60

Asn Gly Asn Gly Ala Ala Tyr Glu Phe Ser Gly Lys Asp Asp Phe Gly
65 70 75 80

Val Lys Ala Asp Val Gln Val Pro Gly Asp Asp Thr Gln Val Gly Leu
85 90 95

Ile Val Arg Thr Asn Asp Trp Ser Gln Lys Asn Thr Ser Asp Asp Leu
100 105 110

His Ile Asp Leu Thr Lys Gly His Glu Ile Trp Ile Val Gln Gly Asp
115 120 125

Pro Asn Ile Tyr Tyr Asn Leu Ser Asp Ala Gln Ala Ala Ala Thr Pro
130 135 140

Lys Val Ser Asn Ala Tyr Leu Asp Asn Glu Lys Thr Val Leu Ala Lys
145 150 155 160

Leu Thr Asn Pro Met Thr Leu Ser Asp Gly Ser Ser Gly Phe Thr Val
165 170 175

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Thr Asp Lys Thr Thr Gly Glu Gln Ile Pro Val Thr Ala Ala Thr Asn
180 185 190

Ala Asn Ser Ala Ser Ser Ser Glu Gln Thr Asp Leu Val Gln Leu Thr
195 200 205

Leu Ala Ser Ala Pro Asp Val Ser His Thr Ile Gln Val Gly Ala Ala
210 215 220

Gly Tyr Glu Ala Val Asn Leu Ile Pro Arg Asn Val Leu Asn Leu Pro
225 230 235 240

Arg Tyr Tyr Tyr Ser Gly Asn Asp Leu Gly Asn Val Tyr Ser Asn Lys
245 250 255

Ala Thr Ala Phe Arg Val Trp Ala Pro Thr Ala Ser Asp Val Gln Leu
260 265 270

Leu Leu Tyr Asn Ser Glu Thr Gly Pro Val Thr Lys Gln Leu Glu Met
275 280 285

Gln Lys Ser Asp Asn Gly Thr Trp Lys Leu Lys Val Pro Gly Asn Leu
290 295 300

Lys Asn Trp Tyr Tyr Leu Tyr Gln Val Thr Val Asn Gly Lys Thr Gln
305 310 315 320

Thr Ala Val Asp Pro Tyr Val Arg Ala Ile Ser Val Asn Ala Thr Arg
325 330 335

Gly Met Ile Val Asp Leu Glu Asp Thr Asn Pro Pro Gly Trp Lys Glu
340 345 350

Asp His Gln Gln Thr Pro Ala Asn Pro Val Asp Glu Val Ile Tyr Glu
355 360 365

Val His Val Arg Asp Phe Ser Ile Asp Ala Asn Ser Gly Met Lys Asn
370 375 380

Lys Gly Lys Tyr Leu Ala Phe Thr Glu His Gly Thr Lys Gly Pro Asp
385 390 395 400

Asn Val Lys Thr Gly Ile Asp Ser Leu Lys Glu Leu Gly Ile Asn Ala
405 410 415

Val Gln Leu Gln Pro Ile Glu Glu Phe Asn Ser Ile Asp Glu Thr Gln
420 425 430

Pro Asn Met Tyr Asn Trp Gly Tyr Asp Pro Arg Asn Tyr Asn Val Pro
435 440 445

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Glu Gly Ala Tyr Ala Thr Thr Pro Glu Gly Thr Ala Arg Ile Thr Gln
 450 455 460
 Leu Lys Gln Leu Ile Gln Ser Ile His Lys Asp Arg Ile Ala Ile Asn
 465 470 475 480
 Met Asp Val Val Tyr Asn His Thr Phe Asn Val Gly Val Ser Asp Phe
 485 490 495
 Asp Lys Ile Val Pro Gln Tyr Tyr Tyr Arg Thr Asp Ser Ala Gly Asn
 500 505 510
 Tyr Thr Asn Gly Ser Gly Val Gly Asn Glu Ile Ala Thr Glu Arg Pro
 515 520 525
 Met Val Gln Lys Phe Val Leu Asp Ser Val Lys Tyr Trp Val Lys Glu
 530 535 540
 Tyr His Ile Asp Gly Phe Arg Phe Asp Leu Met Ala Leu Leu Gly Lys
 545 550 555 560
 Asp Thr Met Ala Lys Ile Ser Lys Glu Leu His Ala Ile Asn Pro Gly
 565 570
 Ile Val Leu Tyr Gly Glu Pro Trp Thr Gly Gly Thr Ser Gly Leu Ser
 580 585 590
 Ser Asp Gln Leu Val Thr Lys Gly Gln Gln Lys Gly Leu Gly Ile Gly
 595 600 605
 Val Phe Asn Asp Asn Ile Arg Asn Gly Leu Asp Gly Asn Val Phe Asp
 610 615 620
 Lys Ser Ala Gln Gly Phe Ala Thr Gly Asp Pro Asn Gln Val Asn Val
 625 630 635 640
 Ile Lys Asn Gly Val Met Gly Ser Ile Ser Asp Phe Thr Ser Ala Pro
 645 650 655
 Ser Glu Thr Ile Asn Tyr Val Thr Ser His Asp Asn Met Thr Leu Trp
 660 665 670
 Asp Lys Ile Ser Ala Ser Asn Pro Asn Asp Thr Gln Ala Asp Arg Ile
 675 680 685
 Lys Met Asp Glu Leu Ala Gln Ala Val Val Phe Thr Ser Gln Gly Val
 690 695 700
 Pro Phe Met Gln Gly Gly Glu Glu Met Leu Arg Thr Lys Gly Gly Asn
 705 710 715 720

Asp Asn Ser Tyr Asn Ala Gly Asp Ser Val Asn Gln Phe Asp Trp Ser
725 730 735

Arg Lys Ala Gln Phe Glu Asn Val Phe Asp Tyr Tyr Ser Trp Leu Ile
740 745 750

His Leu Arg Asp Asn His Pro Ala Phe Arg Met Thr Thr Ala Asp Gln
755 760 765

Ile Lys Gln Asn Leu Thr Phe Leu Asp Ser Pro Thr Asn Thr Val Ala
770 775 780

Phe Glu Leu Lys Asn His Ala Asn His Asp Lys Trp Lys Asn Ile Ile
785 790 795 800

Val Met Tyr Asn Pro Asn Lys Thr Ala Gln Thr Leu Thr Leu Pro Ser
805 810 815

Gly Asn Trp Thr Ile Val Gly Leu Gly Asn Gln Val Gly Glu Lys Ser
820 825 830

Leu Gly His Val Asn Gly Thr Val Glu Val Pro Ala Leu Ser Thr Ile
835 840 845

Ile Leu His Gln Gly Thr Ser Glu Asp Val Ile Asp Gln Asn Pro Glu
850 855 860

Pro Thr Pro Glu Pro Asn Thr Ser Gln Ile Thr Phe Thr Val Asn Asn
865 870 875 880

Ala Thr Thr Val Trp Gly Gln Asn Val Tyr Val Val Gly Asn Ile Ser
885 890 895

Gln Leu Gly Asn Trp Asp Pro Val His Ala Val Gln Met Thr Pro Ser
900 905 910

Ser Tyr Pro Thr Trp Thr Val Thr Ile Pro Leu Leu Gln Gly Gln Asn
915 920 925

Ile Gln Phe Lys Phe Ile Lys Lys Asp Ser Ala Gly Asn Val Ile Trp
930 935 940

Glu Asp Ile Ser Asn Arg Thr Tyr Thr Val Pro Thr Ala Ala Ser Gly
945 950 955 960

Ala Tyr Thr Ala Ser Trp Asn Val Pro
965