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<110>  Roche Diagnostics GmbH
       F. Hoffmann-LaRoche AG
       Ultizyme International Ltd.
<120>  Glucose Oxidase
<130>  27499 WO
<160>  33
<170>  PatentIn version 3.1
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<223>  Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
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<223>  Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa132 is Ser, then
Xaa373 is not Phe
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Ser	Asp	Pro	Ser	Lys	Val	Ala	Gly	Lys	Thr	Tyr	Asp	Tyr	Ile	Ile	Ala
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Gly	Gly	Leu	Thr	Gly	Leu	Thr	Val	Ala	Ala	Lys	Leu	Thr	Glu	Asn
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Pro	Lys	Ile	Lys	Val	Leu	Val	Ile	Glu	Lys	Gly	Phe	Tyr	Glu	Ser	Asn
65				70					75					80
Asp	Gly	Ala	Ile	Ile	Glu	Asp	Pro	Asn	Ala	Tyr	Gly	Gln	Ile	Phe	Gly
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Thr	Thr	Val	Asp	Gln	Asn	Tyr	Leu	Thr	Val	Pro	Leu	Ile	Asn	Asn	Arg
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Thr	Asn	Asn	Ile	Lys	Ala	Gly	Lys	Gly	Leu	Gly	Gly	Ser	Thr	Leu	Ile
		115					120					125		
Asn	Gly	Asp	Xaa	Trp	Thr	Arg	Pro	Asp	Lys	Val	Gln	Ile	Asp	Ser	Trp
	130					135					140			
Glu	Lys	Val	Phe	Gly	Met	Glu	Gly	Trp	Asn	Trp	Asp	Asn	Met	Phe	Glu
145					150					155					160
Tyr	Met	Lys	Lys	Ala	Glu	Ala	Ala	Arg	Thr	Pro	Thr	Ala	Ala	Gln	Leu
			165					170					175	
Ala	Ala	Gly	His	Ser	Phe	Asn	Ala	Thr	Cys	His	Gly	Thr	Asn	Gly	Thr
			180					185					190	
Val	Gln	Ser	Gly	Ala	Arg	Asp	Asn	Gly	Gln	Pro	Trp	Ser	Pro	Ile	Met
		195					200					205		
Lys	Ala	Leu	Met	Asn	Thr	Val	Ser	Ala	Leu	Gly	Val	Pro	Val	Gln	Gln
	210					215					220			
Asp	Phe	Leu	Cys	Gly	His	Pro	Arg	Gly	Val	Ser	Met	Ile	Met	Asn	Asn
225					230					235					240
Leu	Asp	Glu	Asn	Gln	Val	Arg	Val	Asp	Ala	Ala	Arg	Ala	Trp	Leu	Leu
			245					250					255	
Pro	Asn	Tyr	Gln	Arg	Ser	Asn	Leu	Glu	Ile	Leu	Thr	Gly	Gln	Met	Val
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Gly	Lys	Val	Leu	Phe	Lys	Gln	Thr	Ala	Ser	Gly	Pro	Gln	Ala	Val	Gly
	275					280					285			
Val	Asn	Phe	Gly	Thr	Asn	Lys	Ala	Val	Asn	Phe	Asp	Val	Phe	Ala	Lys
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His	Glu	Val	Leu	Leu	Ala	Ala	Gly	Ser	Ala	Ile	Ser	Pro	Leu	Ile	Leu
305					310					315					320
Glu	Tyr	Ser	Gly	Ile	Gly	Leu	Lys	Ser	Val	Leu	Asp	Gln	Ala	Asn	Val
			325					330					335	
Thr	Gln	Leu	Leu	Asp	Leu	Pro	Val	Gly	Ile	Asn	Met	Gln	Asp	Gln	Thr
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Thr	Thr	Thr	Val	Ser	Ser	Arg	Ala	Ser	Ser	Ala	Gly	Ala	Gly	Gln	Gly

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Gln Ala Val Phe Xaa Ala Asn Phe Thr Glu Thr Phe Gly Asp Tyr Ala
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Pro Gln Ala Arg Asp Leu Leu Asn Thr Lys Leu Asp Gln Trp Ala Glu
385                    390                    395                    400
Glu Thr Val Ala Arg Gly Gly Phe His Asn Val Thr Ala Leu Lys Val
                405                    410                    415
Gln Tyr Glu Asn Tyr Arg Asn Trp Leu Leu Asp Glu Asp Val Ala Phe
                420                    425                    430
Ala Glu Leu Phe Met Asp Thr Glu Gly Lys Ile Asn Phe Asp Leu Trp
    435                    440                    445
Asp Leu Ile Pro Phe Thr Arg Gly Ser Val His Ile Leu Ser Ser Asp
    450                    455                    460
Pro Tyr Leu Trp Gln Phe Ala Asn Asp Pro Lys Phe Phe Leu Asn Glu
465                    470                    475                    480
Phe Asp Leu Leu Gly Gln Ala Ala Ala Ser Lys Leu Ala Arg Asp Leu
                485                    490                    495
Thr Ser Gln Gly Ala Met Lys Glu Tyr Phe Ala Gly Glu Thr Leu Pro
                500                    505                    510
Gly Tyr Asn Leu Val Gln Asn Ala Thr Leu Ser Gln Trp Ser Asp Tyr
                515                    520                    525
Val Leu Gln Asn Phe Arg Pro Asn Trp His Ala Val Ser Ser Cys Ser
    530                    535                    540
Met Met Ser Arg Glu Leu Gly Gly Val Val Asp Ala Thr Ala Lys Val
545                    550                    555                    560
Tyr Gly Thr Gln Gly Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr
                565                    570                    575
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Gln
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Xaa373 is not Phe
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                20                  25                  30
Ser Asp Pro Ser Lys Val Ala Gly Lys Thr Tyr Asp Tyr Ile Ile Ala
    35                  40                  45
Gly Gly Gly Leu Thr Gly Leu Thr Val Ala Ala Lys Leu Thr Glu Asn
    50                  55                  60
Pro Lys Ile Lys Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn
65                  70                  75                  80
Asp Gly Ala Ile Ile Glu Asp Pro Asn Ala Tyr Gly Gln Ile Phe Gly
                85                  90                  95
Thr Thr Val Asp Gln Asn Tyr Leu Thr Val Pro Leu Ile Asn Asn Arg
                100                 105                 110
Thr Asn Asn Ile Lys Ala Gly Lys Gly Leu Gly Gly Ser Thr Leu Ile
    115                 120                 125
Asn Gly Asp Xaa Trp Thr Arg Pro Asp Lys Val Gln Ile Asp Ser Trp
    130                 135                 140
Glu Lys Val Phe Gly Met Glu Gly Trp Asn Trp Asp Asn Met Phe Glu
145                 150                 155                 160
Tyr Met Lys Lys Ala Glu Ala Ala Arg Thr Pro Thr Ala Ala Gln Val
                165                 170                 175
```

```
Ala Ala Gly His Ser Phe Asn Ala Thr Cys His Gly Thr Asn Gly Thr
            180                     185                 190
Val Gln Ser Gly Ala Arg Asp Asn Gly Gln Pro Trp Ser Pro Ile Met
        195                 200                 205
Lys Ala Leu Met Asn Thr Val Ser Ala Leu Gly Val Pro Val Gln Gln
    210                 215                 220
Asp Phe Leu Cys Gly His Pro Arg Gly Val Ser Met Ile Met Asn Asn
225                 230                 235                 240
Leu Asp Glu Asn Gln Val Arg Val Asp Ala Ala Arg Ala Trp Leu Leu
            245                 250                 255
Pro Asn Tyr Gln Arg Pro Asn Leu Glu Ile Leu Thr Gly Gln Met Val
            260                 265                 270
Gly Lys Val Leu Phe Lys Gln Thr Ala Ser Gly Pro Gln Ala Val Gly
        275                 280                 285
Val Asn Phe Gly Thr Asn Lys Ala Val Asn Phe Asp Val Phe Ala Lys
    290                 295                 300
His Glu Val Leu Leu Ala Ala Gly Ser Ala Ile Ser Pro Leu Ile Leu
305                 310                 315                 320
Glu Tyr Ser Gly Ile Gly Leu Lys Ser Val Leu Asp Gln Ala Asn Val
            325                 330                 335
Thr Gln Leu Leu Asp Leu Pro Val Gly Ile Asn Met Gln Asp Gln Thr
            340                 345                 350
Thr Thr Thr Val Ser Ser Arg Ala Ser Ala Ala Gly Ala Gly Gln Gly
            355                 360                 365
Gln Ala Val Phe Xaa Ala Asn Phe Thr Glu Thr Phe Gly Asp Tyr Ala
    370                 375                 380
Pro Gln Ala Arg Asp Leu Leu Asn Thr Lys Leu Asp Gln Trp Ala Glu
385                 390                 395                 400
Glu Thr Val Ala Arg Gly Gly Phe His Asn Val Thr Ala Leu Lys Val
            405                 410                 415
Gln Tyr Glu Asn Tyr Arg Asn Trp Leu Leu Asp Glu Asp Val Ala Phe
            420                 425                 430
Ala Glu Leu Phe Met Asp Thr Glu Gly Lys Ile Asn Phe Asp Leu Trp
            435                 440                 445
Asp Leu Ile Pro Phe Thr Arg Gly Ser Val His Ile Leu Ser Ser Asp
    450                 455                 460
Pro Tyr Leu Trp Gln Phe Ala Asn Asp Pro Lys Phe Phe Leu Asn Glu
465                 470                 475                 480
Phe Asp Leu Leu Gly Gln Ala Ala Ala Ser Lys Leu Ala Arg Asp Leu
            485                 490                 495
Thr Ser Gln Gly Ala Met Lys Glu Tyr Phe Ala Gly Glu Thr Leu Pro
            500                 505                 510
Gly Tyr Asn Leu Val Gln Asn Ala Thr Leu Ser Gln Trp Ser Asp Tyr
            515                 520                 525
Val Leu Gln Asn Phe Arg Pro Asn Trp His Ala Val Ser Ser Cys Ser
    530                 535                 540
Met Met Ser Arg Glu Leu Gly Gly Val Val Asp Ala Thr Ala Lys Val
545                 550                 555                 560
Tyr Gly Thr Gln Gly Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr
            565                 570                 575
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<223> Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa132 is Ser, then Xaa373 is not Phe

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Ser Asp Pro Ser Lys Val Ala Gly Lys Thr Tyr Asp Tyr Ile Ile Ala
            35                  40                  45
Gly Gly Gly Leu Thr Gly Leu Thr Val Ala Ala Lys Leu Thr Glu Asn
    50                  55                  60
Pro Lys Ile Lys Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn
65                  70                  75                  80
Asp Gly Ala Ile Ile Glu Asp Pro Asn Ala Tyr Gly Gln Ile Phe Gly
                85                  90                  95
Thr Thr Val Asp Gln Asn Tyr Leu Thr Val Pro Leu Ile Asn Asn Arg
            100                 105                 110
Thr Asn Asn Ile Lys Ala Gly Lys Gly Leu Gly Gly Ser Thr Leu Ile
        115                 120                 125
Asn Gly Asp Xaa Trp Thr Arg Pro Asp Lys Val Gln Ile Asp Ser Trp
    130                 135                 140
Glu Lys Val Phe Gly Met Glu Gly Trp Asn Trp Asp Ser Met Phe Glu
145                 150                 155                 160
Tyr Met Lys Lys Ala Glu Ala Ala Arg Ala Pro Thr Ala Ala Gln Leu
            165                 170                 175
Ala Ala Gly His Tyr Phe Asn Ala Thr Cys His Gly Thr Asn Gly Thr
            180                 185                 190
Val Gln Ser Gly Ala Arg Asp Asn Gly Gln Pro Trp Ser Pro Ile Met
        195                 200                 205
Lys Ala Leu Met Asn Thr Val Ser Ala Leu Gly Val Pro Val Gln Gln
210                 215                 220
Asp Phe Leu Cys Gly His Pro Arg Gly Val Ser Met Ile Met Asn Asn
225                 230                 235                 240
Val Asp Glu Asn Gln Val Arg Val Asp Ala Ala Arg Ala Trp Leu Leu
            245                 250                 255
Pro Ser Tyr Gln Arg Pro Asn Leu Glu Ile Leu Thr Gly Gln Met Val
            260                 265                 270
Gly Lys Val Leu Phe Lys Gln Thr Ala Ser Gly Pro Gln Ala Val Gly
        275                 280                 285
Val Asn Phe Gly Thr Asn Lys Ala Val Asn Phe Asp Val Phe Ala Lys
    290                 295                 300
His Glu Val Leu Leu Ala Ala Gly Ser Ala Ile Ser Pro Leu Ile Leu
305                 310                 315                 320
Glu Tyr Ser Gly Ile Gly Leu Lys Ser Val Leu Asp Gln Ala Asn Val
            325                 330                 335
Thr Gln Leu Leu Asp Leu Pro Val Gly Ile Asn Met Gln Asp Gln Thr
        340                 345                 350
Thr Thr Thr Val Ser Ser Arg Ala Ser Ala Ala Gly Ala Gly Gln Gly
        355                 360                 365
Gln Ala Val Phe Xaa Ala Asn Phe Thr Glu Thr Phe Gly Asp Tyr Ala
    370                 375                 380
Pro Gln Ala Arg Glu Leu Leu Asn Thr Lys Leu Asp Gln Trp Ala Glu
385                 390                 395                 400
Glu Thr Val Ala Arg Gly Gly Phe His Asn Val Thr Ala Leu Lys Val
            405                 410                 415
Gln Tyr Glu Asn Tyr Arg Asn Trp Leu Leu Asp Glu Asp Val Ala Phe
            420                 425                 430
Ala Glu Leu Phe Met Asp Thr Glu Gly Lys Ile Asn Phe Asp Leu Trp
        435                 440                 445
Asp Leu Ile Pro Phe Thr Arg Gly Ser Val His Ile Leu Ser Ser Asp
    450                 455                 460
Pro Tyr Leu Trp Gln Phe Ala Asn Asp Pro Lys Phe Phe Leu Asn Glu
465                 470                 475                 480
Phe Asp Leu Leu Gly Gln Ala Ala Ala Ser Lys Leu Ala Arg Asp Leu
            485                 490                 495
Thr Ser Gln Gly Ala Met Lys Glu Tyr Phe Ala Gly Glu Thr Leu Pro
            500                 505                 510
Gly Tyr Asn Leu Val Glu Asn Ala Thr Leu Ser Gln Trp Ser Asp Tyr
    515                 520                 525
Val Leu Gln Asn Phe Arg Pro Asn Trp His Ala Val Ser Ser Cys Ser
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         530                    535                    540
Met Met Ser Arg Glu Leu Gly Gly Val Val Asp Ala Thr Ala Lys Val
545                    550                    555                    560
Tyr Gly Thr Gln Gly Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr
                565                    570                    575
Gln Val Ser Ser His Val Met Thr Ile Phe Tyr Gly Met Ala Leu Lys
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Val Ala Asp Ala Ile Leu Asp Asp Tyr Ala Lys Ser Ala
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Thr Leu Leu Ala Ile Pro Thr Leu Leu Phe Ser Ala Ala Thr Val Gln
            35                   40                   45
Ala Tyr Leu Pro Ala Glu Gln Ile Asp Val Gln Ser Ser Leu Leu Ser
        50                   55                   60
Glu Pro Ser Lys Val Ala Gly Lys Thr Tyr Asp Tyr Ile Ile Ala Gly
65                   70                   75                   80
Gly Gly Leu Thr Gly Leu Thr Val Ala Ala Lys Leu Thr Glu Asn Pro
            85                   90                   95
Lys Ile Lys Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn Asp
            100                  105                  110
Gly Ala Ile Ile Glu Asp Pro Asn Ala Tyr Gly Gln Ile Phe Gly Thr
            115                  120                  125
Thr Val Asp Gln Asn Tyr Leu Thr Val Pro Leu Ile Asn Asn Arg Thr
        130                  135                  140
Asn Asn Ile Lys Ala Gly Lys Gly Leu Gly Gly Ser Thr Leu Ile Asn
145                  150                  155                  160
Gly Asp Xaa Trp Thr Arg Pro Asp Lys Ile Gln Ile Asp Ser Trp Glu
            165                  170                  175
Lys Val Phe Gly Met Glu Gly Trp Asn Trp Asp Asn Met Phe Glu Tyr
            180                  185                  190
Met Lys Lys Ala Glu Ala Ala Arg Pro Pro Thr Asp Ala Gln Leu Ala
        195                  200                  205
Ala Gly His Tyr Phe Asp Ala Thr Cys His Gly Thr Asn Gly Thr Val
        210                  215                  220
Arg Ser Gly Ala Arg Asp Asn Gly Lys Pro Trp Ser Pro Leu Met Lys
225                  230                  235                  240
Ala Leu Met Asn Thr Val Ser Ala Leu Gly Val Pro Val Gln Gln Asp
            245                  250                  255
Phe Leu Cys Gly His Pro Arg Gly Val Ser Met Ile Met Asn Asn Val
            260                  265                  270
Asp Glu Asn Gln Val Arg Ala Asp Ala Ala Arg Ala Trp Leu Leu Pro
        275                  280                  285
Asn Tyr Gln Arg Ser Asn Leu Glu Ile Leu Thr Gly Gln Met Val Gly
        290                  295                  300
Lys Val Leu Phe Lys Gln Thr Ala Ser Gly Pro Lys Ala Val Gly Val
305                  310                  315                  320
Asn Phe Gly Thr Asn Lys Val Val Asn Phe Asp Val Phe Ala Lys His
            325                  330                  335
Glu Val Leu Leu Ala Ala Gly Ser Ala Ile Ser Pro Leu Ile Leu Glu
            340                  345                  350
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Page 5

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Tyr Ser Gly Ile Gly Leu Lys Ser Val Leu Asp Gln Ala Asn Ile Thr
        355             360             365
Gln Leu Leu Asp Leu Pro Val Gly Ile Asn Met Gln Asp Gln Thr Thr
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Thr Thr Val Ser Ser Arg Ala Ser Val Ala Gly Ala Gly Gln Gly Gln
385             390             395             400
Ala Val Phe Xaa Ala Asn Phe Thr Glu Thr Phe Gly Asp Tyr Ala Pro
            405             410             415
Gln Ala Arg Glu Leu Leu Asn Thr Lys Leu Asp Gln Trp Ala Glu Glu
            420             425             430
Thr Val Ala Arg Gly Gly Phe His Asn Val Thr Ala Leu Lys Val Gln
            435             440             445
Tyr Glu Asn Tyr Arg Asn Trp Leu Leu Asp Glu Asp Val Ala Phe Ala
    450             455             460
Glu Leu Phe Met Asp Thr Glu Gly Lys Ile Asn Phe Asp Leu Trp Asp
465             470             475             480
Leu Ile Pro Phe Thr Arg Gly Ser Val His Ile Leu Ser Ser Asp Pro
            485             490             495
Tyr Leu Trp Gln Phe Ala Asn Asp Pro Lys Phe Phe Leu Asn Glu Phe
            500             505             510
Asp Leu Leu Gly Gln Ala Ala Ala Ser Lys Leu Ala His Asp Leu Ser
    515             520             525
Ser Gln Gly Ala Met Lys Glu Tyr Phe Ala Gly Glu Thr Leu Pro Gly
    530             535             540
Tyr Asn Leu Ala Glu Asn Ala Thr Leu Ser Gln Trp Ser Ala Tyr Val
545             550             555             560
Leu Gln Asn Phe Arg Pro Asn Trp His Ala Val Ser Ser Cys Ser Met
            565             570             575
Met Ser Arg Glu Leu Gly Gly Val Val Asp Ala Thr Ala Lys Val Tyr
    580             585             590
Gly Thr Gln Gly Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln
    595             600             605
Val Ser Ser His Val Met Thr Ile Phe Tyr Gly Met Ala Leu Lys Val
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Ala Asp Ala Ile Leu Asp Asp Tyr Ala Lys Ser Ala
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Ser Asp Pro Asn Lys Val Ala Gly Lys Thr Tyr Asp Tyr Ile Ile Ala
    35              40              45
Gly Gly Gly Leu Thr Gly Leu Thr Val Ala Ala Lys Leu Ser Glu Asn
    50              55              60
Pro Lys Ile Lys Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn
65              70              75              80
Asp Gly Ala Ile Ile Glu Asp Ala Asn Ala Tyr Gly Gln Ile Phe Gly
            85              90              95
Thr Thr Val Asp Gln Asn Tyr Leu Thr Val Pro Leu Ile Asn Asn Arg
            100             105             110
Thr Ser Ser Ile Lys Ser Gly Lys Gly Leu Gly Gly Ser Thr Leu Ile
    115             120             125
Asn Gly Asp Xaa Trp Thr Arg Pro Asp Lys Val Gln Ile Asp Ser Trp
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Page 6

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      130               135               140
Glu Lys Val Phe Gly Met Glu Gly Trp Asn Trp Asp Thr Met Phe Glu
145               150               155               160
Tyr Met Lys Lys Ala Glu Leu Ala Arg Ala Pro Thr Asp Ala Gln Ile
              165               170               175
Ala Ala Gly His Tyr Phe Asn Ala Thr Cys His Gly Phe Asn Gly Thr
              180               185               190
Ile His Ser Gly Pro Arg Asp Asn Gly Gln Pro Trp Ser Pro Ile Met
          195               200               205
Lys Ala Leu Met Asn Thr Thr Ser Ala Leu Gly Ile Pro Thr Gln Gln
210               215               220
Asp Phe Leu Cys Gly His Pro Arg Gly Val Ser Met Ile Tyr Asn Asn
225               230               235               240
Leu Asp Glu Asn Gln Val Arg Ala Asp Ala Gly Arg Ala Trp Val Leu
              245               250               255
Pro Asn Tyr Gln Arg Pro Asn Leu Lys Ile Met Thr Gly Gln Thr Val
          260               265               270
Gly Lys Val Leu Phe Asn Gln Thr Ala Ser Gly Pro Lys Ala Val Gly
          275               280               285
Val Asn Phe Gly Thr Asn Lys Ala Val Asn Phe Asp Val Tyr Ala Lys
      290               295               300
His Glu Val Leu Leu Ala Ala Gly Ser Ala Ile Ser Pro Leu Ile Leu
305               310               315               320
Glu Tyr Ser Gly Ile Gly Leu Lys Ser Val Leu Asp Ala Ala Asn Val
              325               330               335
Thr Gln Leu Val Asp Leu Pro Val Gly Leu Asn Met Gln Asp Gln Thr
          340               345               350
Thr Thr Thr Val Ser Ser Arg Thr Asn Ala Ala Gly Thr Gly Gln Gly
      355               360               365
Gln Ala Val Phe Xaa Ala Asn Phe Thr Glu Val Phe Gly Asp Tyr Thr
370               375               380
Pro Gln Ala Arg Glu Leu Leu Asn Thr Lys Leu Asp Gln Trp Ala Glu
385               390               395               400
Glu Thr Val Ala Arg Gly Gly His Asn Asn Val Thr Ala Leu Lys Ile
              405               410               415
Gln Tyr Glu Asn Tyr Arg Asp Trp Leu Leu Glu Glu Asp Val Ala Tyr
          420               425               430
Ala Glu Leu Phe Met Asp Thr Ser Gly Lys Ile Asn Phe Asp Leu Trp
          435               440               445
Asp Leu Ile Pro Phe Thr Arg Gly Ser Val His Ile Leu Ser Ser Asp
          450               455               460
Pro Tyr Leu Trp Gln Tyr Ala Asn Asp Pro Lys Phe Phe Leu Asn Glu
465               470               475               480
Leu Asp Leu Leu Gly Gln Ala Ala Ala Ser Lys Leu Ala Arg Glu Leu
              485               490               495
Ser Thr Lys Gly Ala Met Ala Gln Tyr Phe Ala Gly Glu Thr Ile Pro
          500               505               510
Gly Asn Asn Leu Ala Ala Asp Ala Asn Leu Ser Gln Trp Ser Asp Tyr
          515               520               525
Val Ile Gln Asn Phe Arg Pro Asn Trp His Ala Val Ser Ser Cys Ser
      530               535               540
Met Met Ala Lys Glu Leu Gly Gly Val Val Asp Ala Thr Ala Lys Val
545               550               555               560
Tyr Gly Thr Gln Gly Leu Arg Val Val Asp Gly Ser Ile Pro Pro Thr
              565               570               575
Gln Val Ser Ser His Val Met Thr Ile Phe Tyr Gly Met Ala Leu Lys
          580               585               590
Val Ala Asp Ala Ile Leu Ala Asp Tyr Ala Lys Ser Ala
595               600               605
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Gln
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Ser Asp Pro Thr Lys Val Glu Gly Glu Thr Tyr Asp Tyr Val Ile Ala
            35                  40                  45
Gly Gly Gly Leu Thr Gly Leu Thr Val Ala Ala Lys Leu Ser Glu Asn
        50                  55                  60
Pro Lys Ile Lys Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn
65                  70                  75                  80
Asp Gly Pro Ile Ile Glu Asp Pro Asn Ala Tyr Gly Glu Ile Phe Gly
                85                  90                  95
Thr Ser Val Asp Gln Asn Tyr Leu Thr Val Pro Leu Ile Asn Asn Arg
            100                 105                 110
Thr Gly Glu Ile Lys Ser Gly Leu Gly Leu Gly Gly Ser Thr Leu Ile
        115                 120                 125
Asn Gly Asp Xaa Trp Thr Arg Pro Asp Lys Val Gln Ile Asp Ser Trp
        130                 135                 140
Glu Lys Val Phe Gly Met Glu Gly Trp Asn Trp Asp Asn Val Phe Gln
145                 150                 155                 160
Tyr Met Gln Lys Ala Glu Arg Ser Arg Pro Pro Thr Ala Ala Gln Ile
            165                 170                 175
Glu Ala Gly His Phe Tyr Asp Pro Ala Cys His Gly Thr Asp Gly Thr
        180                 185                 190
Val His Ala Gly Pro Arg Asp Asn Gly Lys Pro Trp Ser Pro Leu Met
        195                 200                 205
Arg Ala Leu Met Asn Thr Val Ser Ala Phe Gly Val Pro Val Gln Lys
    210                 215                 220
Asp Phe His Cys Gly His Pro Arg Gly Val Ser Met Ile Pro Asn Asn
225                 230                 235                 240
Leu His Glu Asn Gln Ile Arg Ala Asp Ala Ala Arg Glu Trp Leu Leu
            245                 250                 255
Pro Asn Tyr Gln Arg Asp Asn Leu Gln Ile Leu Thr Gly Gln Lys Val
            260                 265                 270
Gly Lys Val Leu Phe Asn Gln Thr Ala Ser Gly Pro Lys Ala Val Gly
        275                 280                 285
Val Asn Phe Gly Thr Asn Lys Ala Val Asn Phe Asn Val Tyr Ala Lys
    290                 295                 300
Gln Glu Val Leu Leu Ala Ala Gly Ser Ala Ile Ser Pro Leu Ile Leu
305                 310                 315                 320
Glu Tyr Ser Gly Ile Gly Ile Lys Ser Val Leu Asp Lys Ala Gly Val
            325                 330                 335
Lys Gln Leu Leu Glu Leu Pro Val Gly Leu Asn Met Gln Asp Gln Thr
            340                 345                 350
Thr Thr Thr Val Arg Ser Arg Ala Asn Asn Ala Pro Gly Gln Gly Gln
        355                 360                 365
Ala Ala Tyr Xaa Ala Asn Phe Thr Glu Val Leu Gly Asp His Ala Ala
        370                 375                 380
Gln Gly Ile Lys Leu Leu Asp Thr Lys Leu Asp Gln Trp Ala Glu Glu
385                 390                 395                 400
Thr Val Ala Arg Gly Gly Phe His Asn Val Thr Ala Leu Lys Ile Gln
            405                 410                 415
Tyr Glu Asn Tyr Arg Asn Trp Leu Leu Asp Glu Asp Val Ala Phe Ala
            420                 425                 430
Glu Leu Phe Phe Asp Thr Glu Gly Lys Ile Asn Phe Asp Ile Trp Asn
        435                 440                 445
Leu Ile Pro Phe Thr Arg Gly Ser Val His Ile Leu Ser Ser Asp Pro
    450                 455                 460
Tyr Leu Trp Gln Tyr Ala Asn Asp Pro Lys Phe Phe Met Asn Glu Leu
465                 470                 475                 480
Asp Leu Leu Gly Gln Ala Ala Ala Thr Lys Leu Gly Arg Glu Leu Ser
            485                 490                 495
```

```
Ser Ala Gly Glu Met Lys Lys Tyr Tyr Ala Gly Glu Thr Ile Pro Gly
            500                 505                 510
Asp Asn Leu Pro Gln Asp Ala Thr Val Glu Gln Trp Glu Asp Tyr Val
        515                 520                 525
Met Met Asn Phe Arg Pro Asn Trp His Ala Val Ser Thr Cys Ser Met
    530                 535                 540
Met Ser Arg Glu Leu Gly Gly Val Val Asp Ala Thr Ala Lys Val Tyr
545                 550                 555                 560
Gly Thr Gln Gly Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln
                565                 570                 575
Val Ser Ser His Val Met Thr Val Phe Tyr Gly Met Ala Leu Arg Ile
            580                 585                 590
Ala Glu Ser Val Leu Glu Asp Tyr Ala Lys Lys Ala
            595                 600
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<210> 7
<211> 628
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<213> Aspergillus terreus
<220>
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<222> (156)..(156)
<223> Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or Gln
<220>
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<222> (397)..(397)
<223> Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa156 is Ser, then Xaa397 is not Phe
<400> 7

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Met Leu Gln Leu Ser Leu Thr Ala Phe Arg Ser Phe His Phe His Thr
1               5                   10                  15
Gly Pro His Pro Leu Lys Thr Thr Ile Ala Met Arg His Ile Ser Tyr
            20                  25                  30
Phe Leu Leu Pro Leu Ala Thr Val Ser Ala Tyr Leu Val Ser Glu Gln
        35                  40                  45
Val Asn Val Gln Ala Ser Leu Leu Thr Asn Pro Glu Asp Val Ala Asp
    50                  55                  60
Lys Lys Phe Asp Tyr Ile Ile Ala Gly Gly Gly Leu Thr Gly Leu Thr
65                  70                  75                  80
Val Ala Ala Lys Leu Thr Glu Asn Pro Asn Ile Glu Val Leu Val Ile
                85                  90                  95
Glu Lys Gly Phe Tyr Glu Ser Asn Asp Gly Thr Ile Ile Glu Asp Pro
            100                 105                 110
Asn Ala Tyr Gly Gln Ile Phe Gly Thr Thr Val Asp Gln Asn Tyr Leu
        115                 120                 125
Thr Val Pro Leu Ile Asn Asn Arg Thr Asp Asn Ile Lys Ser Gly Lys
    130                 135                 140
Gly Leu Gly Gly Ser Thr Leu Ile Asn Gly Asp Xaa Trp Thr Arg Pro
145                 150                 155                 160
Asp Lys Val Gln Ile Asp Ser Trp Glu Lys Val Phe Gly Asn Glu Gly
                165                 170                 175
Trp Asn Trp Asp Asn Val Phe Lys Tyr Met Asn Gln Ala Glu Arg Ala
            180                 185                 190
Arg Ala Pro Asn Ala Ala Gln Val Ala Ala Gly His His Phe Asp Pro
        195                 200                 205
Thr Cys His Gly Phe Asn Gly Thr Val His Ala Gly Pro Arg Asp Asn
    210                 215                 220
Gly Gln Pro Trp Ser Pro Leu Met Lys Ala Leu Met Asn Thr Thr Ser
225                 230                 235                 240
Ala Leu Gly Val Pro Thr Gln Val Asp Phe His Cys Gly His Pro Arg
                245                 250                 255
Gly Val Ser Met Ile Pro Asn Asn Leu Leu Glu Asp Gln Val Arg Ala
            260                 265                 270
Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Arg Arg Lys Asn Leu
        275                 280                 285
Lys Val Leu Thr Gly Gln Val Val Gly Lys Val Ile Phe Asp Gln Asp
    290                 295                 300
Ala Pro Ser Leu Lys Ala Ile Gly Val Asn Phe Gly Thr Asn Lys Ala
```

Page 9

```
305                     310                 315                         320
Val Asn Phe Asn Val Tyr Ala Asn His Glu Val Leu Leu Ala Ala Gly
                325                     330                 335
Ser Ala Ile Ser Pro Leu Ile Leu Glu Tyr Ser Gly Ile Gly Leu Lys
            340                     345                 350
Ser Val Leu Asp Lys Ala Asn Val Pro Gln Leu Leu Glu Leu Pro Val
            355                     360                 365
Gly Ile Asn Met Gln Asp Gln Thr Thr Thr Thr Val Arg Ala Arg Ser
        370                     375                 380
Thr Pro Ala Gly Phe Gly Gln Gly Gln Ala Val Tyr Xaa Ala Asn Phe
385                     390                     395                 400
Thr Glu Thr Phe Gly Glu Asp Ala Pro Tyr Ala Ala Glu Leu Leu Asn
                405                     410                 415
Thr Lys Leu Asp Gln Trp Ala Glu Glu Thr Val Ala Arg Gly Gly Ser
            420                     425                 430
His Asn Val Thr Ala Leu Lys Val Gln Tyr Glu Asn Tyr Arg Asp Trp
            435                     440                 445
Leu Leu Asn Glu Asp Val Ala Tyr Ala Glu Leu Phe Leu Asp Thr Ser
        450                     455                 460
Gly Gln Ile Asn Phe Asp Leu Trp Asp Leu Ile Pro Phe Thr Arg Gly
465                     470                     475                 480
Ser Thr His Ile Leu Ser Ser Asp Pro Tyr Leu Trp Gln Phe Ala Asn
                485                     490                 495
Asp Pro Lys Phe Phe Phe Asn Glu Leu Asp Leu Leu Gly Gln Ala Ala
                500                     505                 510
Ala Ser Arg Leu Ala Arg Thr Leu Gln Asn Ser Gly Ala Met Ala Asn
            515                     520                 525
Tyr Phe Asn Gly Glu Ile Ile Pro Gly Ser Glu Leu Pro Tyr Glu Ala
        530                     535                 540
Ser Leu Glu Gln Trp Ala Glu Tyr Val Lys Asp Asn Phe Arg Ala Asn
545                     550                     555                 560
Trp His Ala Val Gly Thr Cys Ser Met Met Ser Arg Asp Leu Gly Gly
                565                     570                 575
Val Val Asp Ala Thr Ala Lys Val Tyr Asp Thr Gln Gly Leu Arg Val
            580                     585                 590
Ile Asp Gly Ser Ile Pro Pro Thr Gln Val Ser Ser His Val Met Thr
            595                     600                 605
Ile Phe Tyr Gly Met Ala Leu Arg Ile Ala Glu Ser Ile Leu Glu Asp
        610                     615                 620
Tyr Ala Lys Ala
625
<210>   8
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<213>   Aspergillus terreus
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<223>   Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
<220>
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<222>   (371)..(371)
<223>   Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa130 is Ser, then
Xaa371 is not Phe
<400>   8
Met Arg His Ile Gly Tyr Phe Leu Leu Pro Leu Ala Thr Val Cys Ala
1               5                   10                  15
Tyr Leu Val Ser Glu Gln Val Asp Val Gln Ala Ser Leu Leu Thr Asn
            20                  25                  30
Pro Glu Glu Val Ala Asp Lys Asn Phe Asp Tyr Ile Ile Ala Gly Gly
        35                  40                  45
Gly Leu Thr Gly Leu Thr Val Ala Ala Lys Leu Thr Glu Asn Pro Asn
    50                  55                  60
Ile Glu Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn Asp Gly
65                  70                  75                  80
Pro Ile Ile Glu Asp Pro Asn Ala Tyr Gly Gln Ile Phe Gly Thr Thr
                85                  90                  95
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Val Asp Gln Asn Tyr Leu Thr Val Pro Leu Ile Asn Asn Arg Thr Asp
            100                 105                 110
Asn Ile Lys Ser Gly Lys Gly Leu Gly Gly Ser Thr Leu Ile Asn Gly
        115                 120                 125
Asp Xaa Trp Thr Arg Pro Asp Lys Val Gln Ile Asp Ser Trp Glu Thr
    130                 135                 140
Val Phe Gly Asn Glu Gly Trp Asn Trp Asp Asn Val Phe Lys Tyr Met
145                 150                 155                 160
Asn Gln Ala Glu Arg Ala Arg Ala Pro Asn Ala Thr Gln Ile Ala Ala
                165                 170                 175
Gly His His Phe Asp Pro Ala Cys His Gly Phe Asn Gly Thr Val His
            180                 185                 190
Ala Gly Pro Arg Asp Asn Gly Gln Arg Trp Ser Pro Leu Met Lys Ala
        195                 200                 205
Leu Met Asn Thr Thr Ser Ala Leu Gly Val Pro Thr Gln Val Asp Phe
    210                 215                 220
His Cys Gly His Pro Arg Gly Val Ser Met Ile Pro Asn Asn Leu Leu
225                 230                 235                 240
Glu Asp Gln Val Arg Ala Asp Ala Ala His Glu Trp Leu Leu Pro Asn
                245                 250                 255
Tyr Arg Arg Lys Asn Leu Lys Val Leu Thr Gly Gln Leu Val Gly Lys
                260                 265                 270
Val Ile Phe Asp Gln Asp Ala Pro Gly Leu Lys Ala Ile Gly Val Asn
        275                 280                 285
Phe Gly Thr Asn Lys Ala Val Asn Phe Asn Val Tyr Ala Asn His Glu
    290                 295                 300
Val Leu Leu Ala Ala Gly Ser Ala Ile Ser Pro Leu Ile Leu Glu Tyr
305                 310                 315                 320
Ser Gly Ile Gly Leu Arg Ser Val Leu Glu Lys Ala Asn Val Pro Gln
                325                 330                 335
Leu Leu Glu Leu Pro Val Gly Ile Asn Met Gln Asp Gln Thr Thr Thr
            340                 345                 350
Thr Val Arg Ala Arg Ser Thr Pro Ala Gly Phe Gly Gln Gly Gln Ala
        355                 360                 365
Val Tyr Xaa Ala Asn Phe Thr Glu Thr Phe Glu Glu Asp Ala Pro Tyr
        370                 375                 380
Ala Ala Glu Leu Leu Lys Thr Gln Leu Asp Gln Trp Ala Glu Glu Thr
385                 390                 395                 400
Val Ala Arg Gly Gly Phe His Asn Val Thr Ala Leu Lys Val Gln Tyr
                405                 410                 415
Glu Asn Tyr Arg Asp Trp Leu Leu Asn Glu Asp Val Ala Tyr Ala Glu
                420                 425                 430
Leu Phe Leu Asp Thr Ser Gly Gln Ile Asn Phe Asp Leu Trp Asp Leu
        435                 440                 445
Ile Pro Phe Thr Arg Gly Ser Thr His Ile Leu Ser Ser Asp Pro Tyr
    450                 455                 460
Leu Trp Gln Phe Ala Asn Asp Pro Lys Phe Phe Phe Asn Glu Leu Asp
465                 470                 475                 480
Leu Leu Gly Gln Ala Ala Ala Ser Arg Leu Ala Arg Lys Leu Gln Asn
                485                 490                 495
Ser Gly Ala Met Ala Asn Tyr Phe Asp Gly Glu Ile Ile Pro Gly Ser
            500                 505                 510
Glu Leu Pro Asn Glu Ala Ser Leu Glu Gln Trp Ala Glu Tyr Val Lys
        515                 520                 525
Asp Asn Phe Arg Ala Asn Trp His Ala Val Gly Thr Cys Ser Met Met
    530                 535                 540
Ser Lys Asp Leu Gly Gly Val Val Asp Ala Ser Ala Lys Val Tyr Asp
545                 550                 555                 560
Thr Gln Arg Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln Val
                565                 570                 575
Ser Ser His Val Met Thr Ile Phe Tyr Gly Met Ala Leu Arg Ile Ala
            580                 585                 590
Glu Ser Ile Leu Glu Asp Tyr Ala Lys Ala
            595                 600
```

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<210>   9
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<212>   PRT
<213>   Aspergillus oryzae
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<220>
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<222>  (133)..(133)
<223>  Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
<220>
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<222>  (374)..(374)
<223>  Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa133 is Ser, then
Xaa374 is not Phe
<400>  9
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Met Lys Ser Ala Ile Phe Ser Pro Ile Leu Phe Ser Leu Ala Leu Ala
1               5                   10                  15
Gln Asn Tyr Ser Leu Glu Lys His Phe Asp Val Gln Ser Ser Leu Ile
            20                  25                  30
Ser Asp Pro Lys Glu Val Ser Glu Lys Thr Phe Asp Tyr Val Ile Ala
        35                  40                  45
Gly Gly Gly Leu Thr Gly Leu Thr Val Ala Thr Lys Leu Thr Glu Asn
    50                  55                  60
Pro Asp Ile Glu Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn
65                  70                  75                  80
Cys Gly Ser Ile Val Glu Asp Leu Asn Glu Tyr Gly Asp Ile Phe Gly
                85                  90                  95
Thr Asp Val Asp Gln Ala Tyr Gln Thr Val Pro Leu Ala Val Asn Asn
            100                 105                 110
Arg Thr Glu Leu Ile Arg Ser Gly Asn Gly Leu Gly Gly Ser Thr Leu
        115                 120                 125
Ile Asn Gly Gly Xaa Trp Thr Arg Pro Asp Lys Val Gln Ile Asp Ser
    130                 135                 140
Trp Glu Arg Val Phe Gly Asn Glu Gly Trp Asn Trp Asp Ser Leu Phe
145                 150                 155                 160
Glu Tyr Met Lys Lys Ala Glu His Ser Arg Pro Pro Asn Glu Ala Gln
            165                 170                 175
Ile Ala Ala Gly His Ser Tyr Asp Pro Ala Cys His Gly Thr Asn Gly
            180                 185                 190
Thr Val Gln Ala Gly Pro Arg Asp Asn Gly Lys Pro Trp Ser Pro Ile
    195                 200                 205
Met Lys Ala Leu Ile Asn Thr Ala Ser Glu Arg Gly Val Pro Thr Gln
    210                 215                 220
Gln Asp Phe His Cys Gly His Pro Arg Gly Val Ser Met Ile Pro Asn
225                 230                 235                 240
Ala Val His Glu Asp Gln Thr Arg Ser Asp Thr Ala Arg Glu Trp Leu
            245                 250                 255
Leu Pro Asn His Glu Arg Pro Asn Leu Lys Val Leu Thr Gly Gln Arg
        260                 265                 270
Val Gly Lys Val Leu Leu Asn Lys Thr Glu Ser Gly Ala Lys Ala Thr
    275                 280                 285
Gly Leu Asn Phe Gly Thr His Arg Lys Val Asn Tyr Asn Val Tyr Ala
    290                 295                 300
Lys His Glu Val Leu Leu Ala Ala Gly Ser Ala Ile Ser Pro Leu Ile
305                 310                 315                 320
Leu Glu Trp Ser Gly Ile Gly Leu Lys Asp Val Leu Ser Ala Ala Gly
            325                 330                 335
Val Glu Gln Val Val Asp Leu Pro Val Gly Leu Asn Met Gln Asp Gln
            340                 345                 350
Thr Thr Thr Asn Val Arg Ser Gln Ala Gln Ala Ser Gly Ala Gly Gln
        355                 360                 365
Gly Gln Ala Val Tyr Xaa Ala Ser Phe Asn Glu Thr Phe Gly Asp Tyr
    370                 375                 380
Ala His Lys Ala Met Glu Leu Leu Asn Thr Lys Leu Asp Gln Trp Ala
385                 390                 395                 400
Glu Glu Thr Val Arg Asn Gly Gly Phe His Asn Val Thr Ala Leu Lys
                405                 410                 415
Ile Gln Tyr Glu Asn Tyr Arg Asp Trp Leu Leu Asn Glu Asp Val Ala
            420                 425                 430
Phe Ala Glu Leu Phe Leu Asp Thr Glu Gly Lys Ile Asn Phe Asp Leu
        435                 440                 445
Trp Asp Leu Ile Pro Phe Thr Arg Gly Ser Val His Ile Leu Asn Gly
```

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        450                      455                      460
Asp Pro Tyr Leu His Arg Tyr Ala Asn Asp Pro Lys Phe Phe Leu Asn
465                      470                      475                      480
Glu Phe Asp Ile Leu Gly Gln Ala Ala Ala Thr Lys Leu Ala Arg Glu
                485                      490                      495
Leu Ser Asn Thr Gly Glu Met Lys Lys Tyr Phe Ala Gly Glu Ile Ile
                500                      505                      510
Pro Gly Asp Asn Leu Ala Tyr Asp Ala Ser Leu Glu Gln Trp Ala Asp
                515                      520                      525
Tyr Val Lys Glu Asn Phe Arg Ala Asn Trp His Ala Val Ser Ser Cys
        530                      535                      540
Ser Met Met Ser Arg Glu Met Gly Gly Val Val Asp Ser Ala Ala Arg
545                      550                      555                      560
Val Tyr Asp Val Glu Asn Leu Arg Ile Val Asp Gly Ser Ile Pro Pro
                565                      570                      575
Thr Gln Val Ser Ser His Val Met Thr Ile Phe Tyr Gly Met Ala Leu
                580                      585                      590
Lys Val Ala Asp Ala Ile Leu Ala Asp Tyr Ser Lys Asn
                595                      600                      605
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<210> 10
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<213> Aspergillus flavus
<220>
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<223> Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or Gln
<220>
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<222> (374)..(374)
<223> Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa133 is Ser, then Xaa374 is not Phe
<400> 10

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Met Lys Ser Ala Ile Phe Ser Pro Ile Leu Phe Ser Leu Ala Leu Ala
1               5                      10                      15
Gln Asn Tyr Ser Leu Glu Lys His Phe Asp Val Gln Ser Ser Leu Ile
                20                      25                      30
Ser Asp Pro Lys Glu Val Ser Glu Lys Thr Phe Asp Tyr Val Ile Ala
        35                      40                      45
Gly Gly Gly Leu Thr Gly Leu Thr Val Ala Thr Lys Leu Thr Glu Asn
        50                      55                      60
Pro Asp Ile Glu Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn
65                      70                      75                      80
Cys Gly Ser Ile Val Glu Asp Leu Asn Glu Tyr Gly Asp Ile Phe Gly
                85                      90                      95
Thr Asp Val Asp Gln Ala Tyr Gln Thr Val Pro Leu Ala Val Asn Asn
                100                     105                     110
Arg Thr Glu Leu Ile Arg Ser Gly Asn Gly Leu Gly Gly Ser Thr Leu
        115                     120                     125
Ile Asn Gly Gly Xaa Trp Thr Arg Pro Asp Lys Val Gln Ile Asp Ser
        130                     135                     140
Trp Glu Arg Val Phe Gly Asn Glu Gly Trp Asn Trp Asp Ser Leu Phe
145                     150                     155                     160
Glu Tyr Met Lys Lys Ala Glu His Ser Arg Pro Pro Asn Glu Ala Gln
                165                     170                     175
Ile Ala Ala Gly His Ser Tyr Asp Pro Ala Cys His Gly Thr Asn Gly
                180                     185                     190
Thr Val Gln Ala Gly Pro Arg Asp Asn Gly Lys Pro Trp Ser Pro Ile
        195                     200                     205
Ile Lys Ala Leu Ile Asn Thr Ala Ser Glu Arg Gly Val Pro Thr Gln
        210                     215                     220
Gln Asp Phe His Cys Gly His Pro Arg Gly Val Ser Met Ile Pro Asn
225                     230                     235                     240
Ala Val His Glu Asp Gln Thr Arg Ser Asp Thr Ala Arg Glu Trp Leu
                245                     250                     255
Leu Pro Asn His Glu Arg Pro Asn Leu Lys Val Leu Thr Gly Gln Arg
                260                     265                     270
```

```
Val Gly Lys Val Leu Leu Asn Lys Thr Glu Ser Gly Ala Lys Ala Thr
        275             280             285
Gly Leu Asn Phe Gly Thr His Arg Lys Val Asn Tyr Asn Val Tyr Ala
    290             295             300
Lys His Glu Val Leu Leu Ala Ala Gly Ser Ala Ile Ser Pro Leu Ile
305             310             315             320
Leu Glu Trp Ser Gly Ile Gly Leu Lys Asp Val Leu Ser Ala Ala Gly
            325             330             335
Val Glu Gln Val Val Asp Leu Pro Val Gly Leu Asn Met Gln Asp Gln
            340             345             350
Thr Thr Thr Asn Val Arg Ser Gln Ala Gln Ala Ser Gly Ala Gly Gln
    355       ,         360             365
Gly Gln Ala Val Tyr Xaa Ala Ser Phe Asn Glu Thr Phe Gly Asp Tyr
    370             375             380
Ala His Lys Ala Met Glu Leu Leu Asn Thr Lys Leu Asp Gln Trp Ala
385             390             395             400
Glu Glu Thr Val Arg Asn Gly Gly Phe His Asn Val Thr Ala Leu Lys
            405             410             415
Ile Gln Tyr Glu Asn Tyr Arg Asp Trp Leu Leu Asn Glu Asp Val Ala
            420             425             430
Phe Ala Glu Leu Phe Leu Asp Thr Glu Gly Lys Ile Asn Phe Asp Leu
    435             440             445
Trp Asp Leu Ile Pro Phe Thr Arg Gly Ser Val His Ile Leu Asn Gly
    450             455             460
Asp Pro Tyr Leu His Arg Tyr Ala Asn Asp Pro Lys Phe Phe Leu Asn
465             470             475             480
Glu Phe Asp Ile Leu Gly Gln Ala Ala Ala Thr Lys Leu Ala Arg Glu
            485             490             495
Leu Ser Asn Thr Gly Glu Met Lys Lys Tyr Phe Ala Gly Glu Ile Ile
            500             505             510
Pro Gly Asp Asn Leu Ala Tyr Asp Ala Ser Leu Glu Gln Trp Ala Asp
    515             520             525
Tyr Val Lys Glu Asn Phe Arg Ala Asn Trp His Ala Val Ser Ser Cys
    530             535             540
Ser Met Met Ser Arg Glu Met Gly Gly Val Val Asp Ser Ala Ala Arg
545             550             555             560
Val Tyr Asp Val Glu Asn Leu Arg Ile Val Asp Gly Ser Ile Pro Pro
            565             570             575
Thr Gln Val Ser Ser His Val Met Thr Ile Phe Tyr Gly Met Ala Leu
            580             585             590
Lys Val Ala Asp Ala Ile Leu Ala Asp Tyr Ser Lys Asn
    595             600             605
<210>  11
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<212>  PRT
<213>  Aspergillus terreus
<220>
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<223>  Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
<220>
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<222>  (374)..(374)
<223>  Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa133 is Ser, then
Xaa374 is not Phe
<400>  11
Met Lys Gly Thr Phe Leu Val Ser Ala Leu Ala Phe Thr Ala Ile Thr
1             5               10              15
Gln Ala Phe Thr Pro Ala Glu Gln Ile Asp Val Gln Ser Ser Leu Ile
            20              25              30
Ser Asp Pro Lys Glu Val Ala Gly Lys Glu Val Asp Tyr Ile Ile Ala
    35              40              45
Gly Gly Gly Leu Thr Gly Leu Thr Val Ala Ala Lys Leu Thr Glu Asp
    50              55              60
Pro Asp Ile Arg Val Leu Val Ile Glu Lys Gly Phe Tyr Glu Ser Asn
65              70              75              80
Asn Gly Pro Ile Ile Glu Asp Leu Asn Ala Tyr Gly Asp Ile Phe Gly
```

```
                                    85                    90                    95
Ser Thr Val Asp Gln Asn Tyr Leu Thr Val Pro Met Gly Ile Asn Asn
            100                 105                 110
Arg Thr Leu Asp Ile Lys Ser Gly Lys Gly Leu Gly Gly Ser Thr Leu
        115                 120                 125
Val Asn Gly Gly Xaa Trp Thr Ser Pro Asp Lys Val Gln Leu Asp Ser
    130                 135                 140
Trp Glu Thr Val Leu Gly Asn Pro Gly Trp Asn Trp Glu Thr Ile Phe
145                 150                 155                 160
Glu Tyr Lys Lys Lys Ala Glu Arg Ala Arg Tyr Pro Thr Ala Glu Glu
                165                 170                 175
Ile Met Ala Gly Gln His Ile Asp Ala Ala Cys His Gly Phe Asn Gly
        180                 185                 190
Thr Val His Ala Gly Val Arg Asn Thr Gly Glu Pro Tyr Ser Pro Met
        195                 200                 205
Ile Arg Ala Leu Met Asn Thr Thr Glu Ala Met Gly Ile Pro Thr Gln
    210                 215                 220
Val Asp Leu His Cys Gly His Pro Arg Gly Val Ser Met Ile Leu Asn
225                 230                 235                 240
Ser Leu His Glu Asp Gln Thr Arg Ser Asp Ala Ala Arg Glu Trp Leu
                245                 250                 255
Leu Pro Asn Tyr Glu Arg Pro Asn Leu Gln Val Leu Thr Gly Gln Ile
            260                 265                 270
Val Gly Lys Val Leu Phe Glu Ser Thr Gly Asn Gly Pro Lys Ala Val
        275                 280                 285
Gly Val Asn Tyr Gly Thr Asn Lys Asp Val Asn Phe Asn Val Tyr Ala
    290                 295                 300
Lys His Glu Val Leu Leu Ala Ala Gly Ser Ala Val Ser Pro Leu Ile
305                 310                 315                 320
Leu Glu His Ser Gly Ile Gly Leu Lys Ser Val Leu Gly Pro Leu Gly
            325                 330                 335
Ile Ala Gln Leu Val Glu Leu Pro Val Gly Leu Asn Met Gln Asp Gln
            340                 345                 350
Thr Thr Thr Thr Val Gln Ser Arg Ala Lys Gly Thr Gly Ala Gly Gln
        355                 360                 365
Gly Gln Ala Val Tyr Xaa Ala Asn Phe Thr Glu Thr Phe Gly Asp His
    370                 375                 380
Ala Pro His Ala Met Lys Leu Leu Asn Thr Lys Leu Asp Gln Trp Ala
385                 390                 395                 400
Thr Glu Thr Val Ala Arg Gly Gly Phe His Asn Val Thr Ala Leu Lys
            405                 410                 415
Val Gln Tyr Glu Asn Tyr Arg Lys Trp Leu Leu Glu Asp Asp Val Ala
        420                 425                 430
Phe Val Glu Phe Phe Phe Asp Ser Asn Gly Met Ile Asn Phe Asp Leu
    435                 440                 445
Trp Asp Leu Ile Pro Phe Thr Arg Gly Ser Thr His Ile Ala Asp Pro
    450                 455                 460
Asp Pro Tyr Leu Gln Ser Phe Leu Asn Asn Pro Met Phe Phe Leu Asn
465                 470                 475                 480
Glu Phe Asp Leu Leu Gly Gln Ala Ala Ala Ser Lys Leu Ala Arg Glu
            485                 490                 495
Leu Gln Asn Met Gly Glu Met Arg Asp Tyr Phe Ala Gly Glu Asn Ile
        500                 505                 510
Pro Gly Ala Glu Leu Leu Ala Tyr Asp Ala Ser Leu Glu Glu Trp Val
        515                 520                 525
Glu Tyr Val Lys Gln Asn Phe Arg Ala Asn Trp His Ala Val Ser Thr
    530                 535                 540
Cys Ala Met Met Ser Lys Glu Leu Gly Gly Val Val Asp Pro Thr Ala
545                 550                 555                 560
Lys Val Tyr Gly Thr Gln Gly Leu Arg Val Ile Asp Gly Ser Ile Val
            565                 570                 575
Pro Thr Gln Ile Ser Ala His Val Met Thr Thr Phe Tyr Ala Met Ala
        580                 585                 590
Leu Lys Ile Ser Asp Ser Ile Leu Glu Asp Tyr Tyr Arg His
        595                 600                 605
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<210>  12
<211>  583
<212>  PRT
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<213> Aspergillus niger
<220>
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<223> Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or Gln
<220>
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<222> (351)..(351)
<223> Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa110 is Thr, then Xaa351 is not Phe
<400> 12

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Ser Asn Gly Ile Glu Ala Ser Leu Leu Thr Asp Pro Asn Asp Val Ser
1               5                   10                  15
Gly Arg Thr Val Asp Tyr Ile Ile Ala Gly Gly Gly Leu Thr Gly Leu
            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 Xaa 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 Thr 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 Gln 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 Xaa Ala
            340                 345                 350
Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ser Glu Lys Ala His Glu Leu
            355                 360                 365
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 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
            580
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<210>  13
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<223>  Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
<220>
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<222>  (373)..(373)
<223>  Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa132 is Thr, then
Xaa373 is not Phe
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Met Gln Thr Leu Leu Val Ser Ser Leu Val Val Ser Leu Ala Ala Ala
1               5               10              15
Leu Pro His Tyr Ile Arg Ser Asn Gly Ile Glu Ala Ser Leu Leu Thr
            20              25              30
Asp Pro Lys Glu Val Ala Gly Arg Thr Val Asp Tyr Ile Ile Ala Gly
        35              40              45
Gly Gly Leu Thr Gly Leu Thr Thr Ala Ala Arg Leu Thr Glu Asn Pro
    50              55              60
Asp Ile Thr Val Leu Val Ile Glu Ser Gly Ser Tyr Glu Ser Asp Arg
65              70              75              80
Gly Pro Ile Ile Glu Asp Leu Asn Ala Tyr Gly Asp Ile Phe Gly Ser
            85              90              95
Ser Val Asp His Ala Tyr Glu Thr Val Glu Leu Ala Thr Asn Asn Gln
            100             105             110
Thr Ala Leu Ile Arg Ser Gly Asn Gly Leu Gly Gly Ser Thr Leu Val
        115             120             125
Asn Gly Gly Xaa Trp Thr Arg Pro His Lys Ala Gln Val Asp Ser Trp
    130             135             140
Glu Thr Val Phe Gly Asn Glu Gly Trp Asn Trp Asp Ser 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 Ile 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 Leu Gly Cys Gly Asp Pro His Gly Val Ser Met Phe Pro Asn Thr
225             230             235             240
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 Ala Thr Thr Pro Arg Ala Val Gly
```

```
              275                   280                   285
Val Glu Phe Gly Thr His Lys Gly Asn Thr His Asn Val Tyr Ala Lys
    290                   295                   300
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
                  325                   330                   335
Asp Thr Val Val Asp Leu Pro Val Gly Leu Asn Leu Gln Asp Gln Thr
              340                   345                   350
Thr Ser Thr Val Arg Ser Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly
          355                   360                   365
Gln Ala Ala Trp Xaa Ala Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ala
      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 Lys Asp Asn Val Ala Tyr
              420                   425                   430
Ser Glu Leu Phe Leu Asp Thr Ala Gly Val Ala Ser Phe Asp Val Trp
          435                   440                   445
Asp Leu Leu Pro Phe Thr Arg Gly Tyr Val His Ile Leu Asp Lys Asp
      450                   455                   460
Pro Tyr Leu Arg His Phe Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu
465                   470                   475                   480
Leu Asp Leu Leu Gly Gln Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile
                  485                   490                   495
Ser Asn Ser Gly Ala Met Gln Thr Tyr Phe Ala Gly Glu Thr Ile Pro
              500                   505                   510
Gly Asp Asn Leu Ala Tyr Asp Ala Asp Leu Ser Ala Trp Val Glu Tyr
          515                   520                   525
Ile Pro Tyr Asn Phe Arg Pro Asn Tyr His Gly Val Gly Thr Cys Ser
      530                   535                   540
Met Met Pro Lys Glu Met Gly Gly Val Val Asp Asn Ala Ala Arg Val
545                   550                   555                   560
Tyr Gly Val Gln Gly Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr
                  565                   570                   575
Gln Met Ser Ser His Val Met Thr Val Phe Tyr Ala Met Ala Leu Lys
              580                   585                   590
Ile Ala Asp Ala Ile Leu Ala Asp Tyr Ala Ser Met Gln
          595                   600                   605
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<223>  Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
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<223>  Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa132 is Thr, then
Xaa373 is not Phe
<400>  14
Met Gln Thr Leu Leu Val Ser Ser Leu Val Val Ser Leu Ala Ala Ala
1                   5                   10                  15
Leu Pro His Tyr Ile Arg Ser Asn Gly Ile Glu Ala Ser Leu Leu Thr
              20                  25                  30
Asp Pro Lys Asp Val Ser Gly Arg Thr Val Asp Tyr Ile Ile Ala Gly
          35                  40                  45
Gly Gly Leu Thr Gly Leu Thr Thr Ala Ala Arg Leu Thr Glu Asn Pro
      50                  55                  60
Asn Ile Ser Val Leu Val Ile Glu Ser Gly Ser Tyr Glu Ser Asp Arg
65                  70                  75                  80
Gly Pro Ile Ile Glu Asp Leu Asn Ala Tyr Gly Asp Ile Phe Gly Ser
                  85                  90                  95
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Ser Val Asp His Ala Tyr Glu Thr Val Glu Leu Ala Thr Asn Asn Gln
            100                 105                 110
Thr Ala Leu Ile Arg Ser Gly Asn Gly Leu Gly Gly Ser Thr Leu Val
        115                 120                 125
Asn Gly Gly Xaa Trp Thr Arg Pro His Lys Ala Gln Val Asp Ser Trp
    130                 135                 140
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
225                 230                 235                 240
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
        275                 280                 285
Val Glu Phe Gly Thr His Lys Gly Asn Thr His Asn Val Tyr Ala Lys
    290                 295                 300
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
            325                 330                 335
Asp Thr Val Val Asp Leu Pro Val Gly Leu Asn Leu Gln Asp Gln Thr
            340                 345                 350
Thr Ala Thr Val Arg Ser Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly
        355                 360                 365
Gln Ala Ala Trp Xaa 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
        435                 440                 445
Asp Leu Leu Pro Phe Thr Arg Gly Tyr Val His Ile Leu Asp Lys Asp
    450                 455                 460
Pro Tyr Leu His His Phe Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu
465                 470                 475                 480
Leu Asp Leu Leu Gly Gln Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile
                485                 490                 495
Ser Asn Ser Gly Ala Met Gln Thr Tyr Phe Ala Gly Glu Thr Ile Pro
            500                 505                 510
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
    530                 535                 540
Met Met Pro Lys Glu Met Gly Gly Val Val Asp Asn Ala Ala Arg Val
545                 550                 555                 560
Tyr Gly Val Gln Gly Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr
                565                 570                 575
Gln Met Ser Ser His Val Met Thr Val Phe Tyr Ala Met Ala Leu Lys
            580                 585                 590
Ile Ser Asp Ala Ile Leu Glu Asp Tyr Ala Ser Met Gln
            595                 600                 605
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<210>  15
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<213>  Aspergillus niger
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<220>
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<223> Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
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<223> Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa108 is Thr, then
Xaa349 is not Phe
<400> 15
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Gly Ile Glu Ala Ser Leu Leu Thr Asp Pro Lys Glu Val Ala Gly Arg
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Thr Val Asp Tyr Ile Ile Ala Gly Gly Leu Thr Gly Leu Thr Thr
            20                  25              30
Ala Ala Arg Leu Thr Glu Asn Pro Asp Ile Thr Val Leu Val Ile Glu
        35              40                  45
Ser Gly Ser Tyr Glu Ser Asp Arg Gly Pro Ile Ile Glu Asp Leu Asn
    50                  55                  60
Ala Tyr Gly Asp Ile Phe Gly Ser Ser Val Asp His Ala Tyr Glu Thr
65              70                  75                  80
Val Glu Leu Ala Thr Asn Asn Gln Thr Ala Leu Ile Arg Ser Gly Asn
            85                  90                  95
Gly Leu Gly Gly Ser Thr Leu Val Asn Gly Gly Xaa Trp Thr Arg Pro
            100                 105                 110
His Lys Ala Gln Val Asp Ser Trp Glu Thr Val Phe Gly Asn Glu Gly
        115                 120                 125
Trp Asn Trp Asp Ser Val Ala Ala Tyr Ser Leu Gln Ala Glu Arg Ala
    130                 135                 140
Arg Ala Pro Asn Ala Lys Gln Ile Ala Ala Gly His Tyr Phe Asn Ala
145                 150                 155                 160
Ser Cys His Gly Ile Asn Gly Thr Val His Ala Gly Pro Arg Asp Thr
            165                 170                 175
Gly Asp Asp Tyr Ser Pro Ile Val Lys Ala Leu Met Ser Ala Val Glu
            180                 185                 190
Asp Arg Gly Val Pro Thr Lys Lys Asp Leu Gly Cys Gly Asp Pro His
    195                 200                 205
Gly Val Ser Met Phe Pro Asn Thr Leu His Glu Asp Gln Val Arg Ser
    210                 215                 220
Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Gln Arg Pro Asn Leu
225                 230                 235                 240
Gln Val Leu Thr Gly Gln Tyr Val Gly Lys Val Leu Leu Ser Gln Asn
            245                 250                 255
Ala Thr Thr Pro Arg Ala Val Gly Val Glu Phe Gly Thr His Lys Gly
            260                 265                 270
Asn Thr His Asn Val Tyr Ala Lys His Glu Val Leu Leu Ala Ala Gly
    275                 280                 285
Ser Ala Val Ser Pro Thr Ile Leu Glu Tyr Ser Asp Ile Gly Met Lys
    290                 295                 300
Ser Ile Leu Glu Pro Leu Gly Ile Asp Thr Val Val Asp Leu Pro Val
305                 310                 315                 320
Gly Leu Asn Leu Gln Asp Gln Thr Thr Ser Thr Val Arg Ser Arg Ile
            325                 330                 335
Thr Ser Ala Gly Ala Gly Gln Gly Gln Ala Ala Trp Xaa Ala Thr Phe
            340                 345                 350
Asn Glu Thr Phe Gly Asp Tyr Ala Glu Lys Ala His Glu Leu Leu Asn
    355                 360                 365
Thr Lys Leu Glu Gln Trp Ala Glu Glu Ala Val Ala Arg Gly Gly Phe
370                 375                 380
His Asn Thr Thr Ala Leu Leu Ile Gln Tyr Glu Asn Tyr Arg Asp Trp
385                 390                 395                 400
Ile Val Lys Asp Asn Val Ala Tyr Ser Glu Leu Phe Leu Asp Thr Ala
                405                 410                 415
Gly Val Ala Ser Phe Asp Val Trp Asp Leu Leu Pro Phe Thr Arg Gly
            420                 425                 430
Tyr Val His Ile Leu Asp Lys Asp Pro Tyr Leu Arg His Phe Ala Tyr
    435                 440                 445
Asp Pro Gln Tyr Phe Leu Asn Glu Leu Asp Leu Leu Gly Gln Ala Ala
```

```
        450                      455                      460
Ala Thr Gln Leu Ala Arg Asn Ile Ser Asn Ser Gly Ala Met Gln Thr
465                      470                      475                      480
Tyr Phe Ala Gly Glu Thr Ile Pro Gly Asp Asn Leu Ala Tyr Asp Ala
                485                      490                      495
Asp Leu Ser Ala Trp Val Glu Tyr Ile Pro Tyr Asn Phe Arg Pro Asn
                500                      505                      510
Tyr His Gly Val Gly Thr Cys Ser Met Met Pro Lys Glu Met Gly Gly
                515                      520                      525
Val Val Asp Asn Ala Ala Arg Val Tyr Gly Val Gln Gly Leu Arg Val
                530                      535                      540
Ile Asp Gly Ser Ile Pro Pro Thr Gln Met Ser Ser His Val Met Thr
545                      550                      555                      560
Val Phe Tyr Ala Met Ala Leu Lys Ile Ala Asp Ala Ile Leu Ala Asp
                565                      570                      575
Tyr Ala Ser
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<210>  16
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<223>  Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
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<223>  Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa108 is Thr, then
Xaa349 is not Phe
<400>  16
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Thr Val Asp Tyr Ile Ile Ala Gly Gly Gly Leu Thr Gly Leu Thr Thr
                20                      25                      30
Ala Ala Arg Leu Thr Glu Asn Pro Asp Ile Thr Val Leu Val Ile Glu
        35                      40                      45
Ser Gly Ser Tyr Glu Ser Asp Arg Gly Pro Ile Ile Glu Asp Leu Asn
        50                      55                      60
Ala Tyr Gly Asp Ile Phe Gly Ser Ser Val Asp His Ala Tyr Glu Thr
65                      70                      75                      80
Val Glu Leu Ala Thr Asn Asn Gln Thr Ala Leu Ile Arg Ser Gly Asn
                85                      90                      95
Gly Leu Gly Gly Ser Thr Leu Val Asn Gly Gly Xaa Trp Thr Arg Pro
                100                     105                     110
His Lys Ala Gln Val Asp Ser Trp Glu Thr Val Phe Gly Asn Glu Gly
        115                     120                     125
Trp Asn Trp Asp Ser Val Ala Ala Tyr Ser Leu Gln Ala Glu Arg Ala
        130                     135                     140
Arg Ala Pro Asn Ala Lys Gln Ile Ala Ala Gly His Tyr Phe Asn Ala
145                     150                     155                     160
Ser Cys His Gly Ile Asn Gly Thr Val His Ala Gly Pro Arg Asp Thr
                165                     170                     175
Gly Asp Asp Tyr Ser Pro Ile Val Lys Ala Leu Met Ser Ala Val Glu
                180                     185                     190
Asp Arg Gly Val Pro Thr Lys Lys Asp Leu Gly Cys Gly Asp Pro His
        195                     200                     205
Gly Val Ser Met Phe Pro Asn Thr Leu His Glu Asp Gln Val Arg Ser
        210                     215                     220
Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Gln Arg Pro Asn Leu
225                     230                     235                     240
Gln Val Leu Thr Gly Gln Tyr Val Gly Lys Val Leu Leu Ser Gln Asn
                245                     250                     255
Ala Thr Thr Pro Arg Ala Val Gly Val Glu Phe Gly Thr His Lys Gly
                260                     265                     270
Asn Thr His Asn Val Tyr Ala Lys His Glu Val Leu Leu Ala Ala Gly
        275                     280                     285
```

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Ser Ala Val Ser Pro Thr Ile Leu Glu Tyr Ser Gly Ile Gly Met Lys
    290   295   300
Ser Ile Leu Glu Pro Leu Gly Ile Asp Thr Val Val Asp Leu Pro Val
305   310   315   320
Gly Leu Asn Leu Gln Asp Gln Thr Thr Ser Thr Val Arg Ser Arg Ile
                325   330   335
Thr Ser Ala Gly Ala Gly Gln Gly Gln Ala Ala Trp Xaa Ala Thr Phe
                340   345   350
Asn Glu Thr Phe Gly Asp Tyr Thr Glu Lys Ala His Glu Leu Leu Asn
            355   360   365
Thr Lys Leu Glu Gln Trp Ala Glu Glu Ala Val Ala Arg Gly Gly Phe
    370   375   380
His Asn Thr Thr Ala Leu Leu Ile Gln Tyr Glu Asn Tyr Arg Asp Trp
385   390   395   400
Ile Val Lys Asp Asn Val Ala Tyr Ser Glu Leu Phe Leu Asp Thr Ala
                405   410   415
Gly Val Ala Ser Phe Asp Val Trp Asp Leu Leu Pro Phe Thr Arg Gly
                420   425   430
Tyr Val His Ile Leu Asp Lys Asp Pro Tyr Leu Arg His Phe Ala Tyr
            435   440   445
Asp Pro Gln Tyr Phe Leu Asn Glu Leu Asp Leu Leu Gly Gln Ala Ala
    450   455   460
Ala Thr Gln Leu Ala Arg Asn Ile Ser Asn Ser Gly Ala Met Gln Thr
465   470   475   480
Tyr Phe Ala Gly Glu Thr Ile Pro Gly Asp Asn Leu Ala Tyr Asp Ala
                485   490   495
Asp Leu Arg Ala Trp Val Glu Tyr Ile Pro Tyr Asn Phe Arg Pro Asn
            500   505   510
Tyr His Gly Val Gly Thr Cys Ser Met Met Pro Lys Glu Met Gly Gly
            515   520   525
Val Val Asp Asn Ala Ala Arg Val Tyr Gly Val Gln Gly Leu Arg Val
    530   535   540
Ile Asp Gly Ser Ile Pro Pro Thr Gln Met Ser Ser His Val Met Thr
545   550   555   560
Val Phe Tyr Ala Met Ala Leu Lys Ile Ala Asp Ala Val Leu Ala Asp
                565   570   575
Tyr Ala Ser Met Gln
                580

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<223> Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa132 is Thr, then Xaa373 is not Phe
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Met Gln Thr Leu Leu Val Ser Ser Leu Val Val Ser Leu Ala Ala Ala
1   5   10   15
Leu Pro His Tyr Ile Arg Ser Asn Gly Ile Glu Ala Ser Leu Leu Thr
            20   25   30
Asp Pro Lys Asp Val Ser Gly Arg Thr Val Asp Tyr Ile Ile Ala Gly
        35   40   45
Gly Gly Leu Thr Gly Leu Thr Thr Ala Ala Arg Leu Thr Glu Asn Pro
    50   55   60
Asn Ile Ser Val Leu Val Ile Glu Ser Gly Ser Tyr Glu Ser Asp Arg
65   70   75   80
Gly Pro Ile Ile Glu Asp Leu Asn Ala Tyr Gly Asp Ile Phe Gly Ser
                85   90   95
Ser Val Asp His Ala Tyr Glu Thr Val Glu Leu Ala Thr Asn Asn Gln
            100   105   110
Thr Ala Leu Ile Arg Ser Gly Asn Gly Leu Gly Gly Ser Thr Leu Val

```
                115                    120                    125
Asn Gly Gly Xaa Trp Thr Arg Pro His Lys Ala Gln Val Asp Ser Trp
    130                    135                    140
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
225                    230                    235                    240
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
    275                    280                    285
Val Glu Phe Gly Thr His Lys Gly Asn Thr His Asn Val Tyr Ala Lys
    290                    295                    300
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
                325                    330                    335
Asp Thr Val Val Asp Leu Pro Val Gly Leu Asn Leu Gln Asp Gln Thr
                340                    345                    350
Thr Ala Thr Val Arg Ser Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly
    355                    360                    365
Gln Ala Ala Trp Xaa 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
    435                    440                    445
Asp Leu Leu Pro Phe Asp Arg Gly Tyr Val His Ile Leu Asp Lys Asp
    450                    455                    460
Pro Tyr Leu His His Phe Ala Tyr Asp Pro Gln Tyr Phe Leu Asn Glu
465                    470                    475                    480
Leu Asp Leu Leu Gly Gln Ala Ala Ala Thr Gln Leu Ala Arg Asn Ile
                485                    490                    495
Ser Asn Ser Gly Ala Met Gln Thr Tyr Phe Ala Gly Glu Ile Leu Pro
                500                    505                    510
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 Asp Val Gly Thr Cys Ser
    530                    535                    540
Met Met Pro Lys Glu Met Gly Ser Val Val Asp Asn Ala Ala Arg Val
545                    550                    555                    560
Tyr Gly Val Arg Gly Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr
                565                    570                    575
Gln Met Ser Ser His Val Met Thr Val Phe Tyr Ala Met Ala Leu Lys
                580                    585                    590
Ile Ser Asp Ala Ile Leu Glu Asp Tyr Ala Ser Met Gln
    595                    600                    605
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<210>   18
<211>   581
<212>   PRT
<213>   Aspergillus niger
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<222>   (108)..(108)
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Gln
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<223>  Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa108 is Thr, then
Xaa349 is not Phe
<400>  18
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Gly Ile Glu Ala Ser Leu Leu Thr Asp Pro Lys Glu Ile Ala Gly Cys
1               5                   10                  15
Thr Val Asp Tyr Ile Ile Ala Gly Gly Gly Leu Thr Gly Leu Thr Thr
                20              25                  30
Ala Ala Arg Leu Thr Glu Asn Pro Asp Ile Thr Val Leu Val Ile Glu
        35                  40                  45
Ser Gly Ser Tyr Glu Ser Asp Arg Gly Pro Ile Ile Glu Asp Leu Asn
    50                  55                  60
Ala Tyr Gly Asp Ile Phe Gly Ser Ser Val Asp His Ala Tyr Glu Thr
65                  70                  75                  80
Val Glu Leu Ala Thr Asn Asn Gln Thr Ala Leu Ile Arg Ser Gly Asn
                85                  90                  95
Gly Leu Gly Gly Ser Ser Leu Val Asn Gly Gly Xaa Trp Thr Arg Pro
                100                 105                 110
His Lys Ala Gln Val Asp Ser Trp Glu Thr Val Phe Gly Asn Glu Gly
        115                 120                 125
Trp Asn Trp Asp Ser Val Ala Ala Tyr Ser Leu Gln Ala Glu Arg Ala
    130                 135                 140
Arg Ala Pro Asn Ala Lys Gln Ile Ala Ala Gly His Tyr Phe Asn Ala
145                 150                 155                 160
Ser Cys His Gly Ile Asn Gly Thr Val His Ala Gly Pro Arg Asp Thr
                165                 170                 175
Gly Asp Asp Tyr Ser Pro Ile Val Lys Ala Leu Met Ser Ala Val Glu
                180                 185                 190
Asp Arg Gly Val Pro Thr Lys Lys Asp Leu Gly Cys Gly Asp Pro His
        195                 200                 205
Gly Val Ser Met Phe Pro Asn Thr Leu His Glu Asp Gln Val Arg Ser
    210                 215                 220
Asp Ala Ala Arg Glu Trp Leu Leu Pro Asn Tyr Gln Arg Pro Asn Leu
225                 230                 235                 240
Gln Val Leu Thr Gly Gln Tyr Val Gly Lys Val Leu Leu Ser Gln Asn
                245                 250                 255
Ala Thr Thr Pro Arg Ala Ile Gly Val Glu Phe Gly Thr His Lys Gly
                260                 265                 270
Asn Thr His Asn Val Tyr Ala Lys His Glu Val Leu Leu Ala Ala Gly
        275                 280                 285
Ser Ala Val Ser Pro Thr Ile Leu Glu Tyr Ser Gly Ile Gly Met Lys
    290                 295                 300
Ser Ile Leu Glu Pro Leu Gly Ile Asp Thr Val Val Asp Leu Pro Val
305                 310                 315                 320
Gly Leu Asn Leu Gln Asp Gln Thr Thr Ser Thr Val Arg Ser Arg Ile
                325                 330                 335
Thr Ser Ala Gly Ala Gly Gln Gly Gln Ala Ala Trp Xaa Ala Thr Phe
                340                 345                 350
Asn Glu Thr Leu Gly Asp Tyr Ala Glu Lys Ala His Glu Leu Leu Asn
        355                 360                 365
Thr Lys Leu Glu Gln Trp Ala Glu Glu Ala Val Ala Arg Gly Gly Phe
    370                 375                 380
His Asn Thr Thr Ala Leu Leu Ile Gln Tyr Glu Asn Tyr Arg Asp Trp
385                 390                 395                 400
Ile Val Lys Asp Asn Val Ala Tyr Ser Glu Leu Phe Leu Asp Thr Ala
                405                 410                 415
Gly Val Ala Ser Phe Gly Val Trp Asp Leu Leu Pro Phe Thr Arg Gly
                420                 425                 430
Tyr Val His Ile Leu Asp Lys Ala Pro Tyr Leu Arg His Phe Ala Tyr
        435                 440                 445
Asp Pro Gln Tyr Phe Leu Asn Glu Leu Asp Leu Leu Gly Gln Ala Ala
    450                 455                 460
Ala Thr Gln Leu Ala Arg Asn Ile Ser Asn Ser Gly Ala Met Gln Thr
465                 470                 475                 480
```

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```
Tyr Phe Ala Gly Glu Thr Ile Pro Gly Asp Asn Leu Ala Tyr Asp Ala
            485                 490                 495
Asp Leu Ser Ala Trp Val Glu Tyr Ile Pro Tyr Asn Phe Arg Pro Asn
            500                 505                 510
Tyr His Gly Val Gly Thr Cys Ser Met Met Pro Lys Glu Met Gly Gly
            515                 520                 525
Val Val Asp Asn Ala Ala Arg Val Tyr Gly Val Gln Gly Gln Arg Val
        530                 535                 540
Ile Asp Gly Ser Ile Pro Pro Thr Gln Met Ser Ser His Val Met Thr
545                 550                 555                 560
Val Phe Tyr Ala Met Ala Leu Lys Ile Ala Asp Ala Ile Leu Ala Asp
                565                 570                 575
Tyr Ala Ser Met Gln
                580
```

```
<210>  19
<211>  604
<212>  PRT
<213>  Aspergillus niger
<220>
<221>  MISC_FEATURE
<222>  (131)..(131)
<223>  Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
<220>
<221>  MISC_FEATURE
<222>  (372)..(372)
<223>  Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa131 is Thr, then
Xaa372 is not Phe
<400>  19
```

```
Met Lys Thr Ile Leu Ser Ser Ser Leu Val Val Ser Met Ala Ala Ala
1               5                   10                  15
Cys Thr Leu His Arg Ser Ser Gly Ile Glu Ala Ser Leu Leu Thr Asp
            20                  25                  30
Pro Lys Ala Val Ala Gly Arg Thr Val Asp Asp Ile Ile Ala Gly Gly
        35                  40                  45
Gly Leu Thr Gly Leu Thr Thr Ala Ala Arg Leu Thr Glu Asn Pro Asn
    50                  55                  60
Ile Thr Val Leu Val Ile Glu Ser Gly Phe Tyr Glu Ser Asp Arg Gly
65                  70                  75                  80
Pro Leu Val Glu Asp Leu Asn Ala Tyr Gly Glu Ile Phe Gly Ser Glu
                85                  90                  95
Val Asp His Ala Tyr Gln Thr Val Glu Leu Ala Thr Asn Asn Leu Thr
            100                 105                 110
Glu Leu Ile Arg Ser Gly Asn Gly Leu Gly Gly Ser Thr Leu Val Asn
    115                 120                 125
Gly Gly Xaa Trp Thr Arg Pro His Lys Val Gln Val Asp Ser Trp Glu
    130                 135                 140
Thr Val Phe Gly Asn Glu Gly Trp Asn Trp Glu Asn Val Ala Ala Tyr
145                 150                 155                 160
Ser Leu Glu Ala Glu Arg Ala Arg Ala Pro Asn Ala Lys Gln Val Ala
                165                 170                 175
Ala Gly His Tyr Phe Asp Pro Ser Cys His Gly Thr Asn Gly Thr Val
            180                 185                 190
His Val Gly Pro Arg Asp Thr Gly Asp Asp Tyr Thr Pro Ile Ile Asp
    195                 200                 205
Ala Leu Met Thr Thr Val Glu Asn Met Gly Val Pro Thr Lys Lys Asp
    210                 215                 220
Leu Gly Cys Gly Asp Pro His Gly Val Ser Met Phe Pro Asn Thr Leu
225                 230                 235                 240
His Glu Asp Gln Val Arg Ser Asp Ala Ala Arg Glu Trp Leu Leu Pro
            245                 250                 255
Asn Tyr Gln Arg Pro Asn Leu Gln Val Leu Thr Gly Gln Leu Val Gly
            260                 265                 270
Lys Val Leu Leu Asp Gln Asn Asn Thr Val Pro Lys Ala Val Gly Val
    275                 280                 285
Glu Phe Gly Thr His Lys Ala Asn Thr Phe Asn Val Tyr Ala Lys His
    290                 295                 300
Glu Val Leu Leu Ala Ala Gly Ser Ala Val Ser Pro Gln Ile Leu Glu
```

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```
305                    310                    315                       320
His Ser Gly Ile Gly Met Lys Ser Ile Leu Asp Thr Val Gly Ile Asp
                325                    330                    335
Thr Val Val Asp Leu Pro Val Gly Leu Asn Leu Gln Asp Gln Thr Ile
                340                    345                    350
Val Leu Val Ser Ser Arg Ile Thr Ser Ala Gly Ala Gly Gln Gly Gln
                355                    360                    365
Val Ala Ile Xaa Ala Thr Phe Asn Glu Thr Phe Gly Asp Tyr Ala Pro
                370                    375                    380
Gln Ala His Ala Leu Leu Asp Ala Lys Leu Glu Gln Trp Ala Glu Glu
385                    390                    395                       400
Gly Val Ala Arg Gly Gly Phe His Asn Ala Thr Ala Leu Arg Ile Gln
                405                    410                    415
Tyr Glu Asn Tyr Arg Asp Trp Leu Val Asn His Asn Val Ala Tyr Ser
                420                    425                    430
Glu Leu Phe Leu Asp Thr Ala Gly Ala Val Ser Phe Thr Ile Trp Asp
                435                    440                    445
Leu Ile Pro Phe Thr Arg Gly Tyr Val His Ile Thr Asp Ala Asp Pro
                450                    455                    460
Tyr Leu Arg Leu Val Ser Tyr Asp Pro Gln Tyr Phe Leu Asn Glu Leu
465                    470                    475                       480
Asp Leu Tyr Gly Gln Ala Ala Ala Ser Gln Leu Ala Arg Asn Leu Ser
                485                    490                    495
Asn Thr Asp Ala Met Gln Thr Tyr Phe Ala Gly Glu Thr Thr Pro Gly
                500                    505                    510
Asp Asn Pro Ala Tyr Asp Ala Ser Leu Ser Asp Trp Ala Glu Tyr Ile
                515                    520                    525
Lys Tyr Asn Phe Arg Pro Asn Tyr His Gly Val Gly Thr Cys Ser Met
                530                    535                    540
Met Lys Lys Glu Leu Gly Gly Val Val Asp Ser Ser Ala Arg Val Tyr
545                    550                    555                       560
Gly Val Asp Ser Leu Arg Val Ile Asp Gly Ser Ile Pro Pro Thr Gln
                565                    570                    575
Val Ser Ser His Val Met Thr Val Phe Tyr Ala Met Ala Leu Lys Ile
                580                    585                    590
Ser Ala Ala Ile Leu Ala Asp Tyr Ala Ser Ser Gln
                595                    600
<210>   20
<211>   619
<212>   PRT
<213>   Sclerotinia sclerotiorum
<220>
<221>   MISC_FEATURE
<222>   (130)..(130)
<223>   Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
<220>
<221>   MISC_FEATURE
<222>   (373)..(373)
<223>   Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa130 is Thr, then
Xaa373 is not Phe
<400>   20
Met Ser Ile Ile Arg Phe Ala Phe Leu Gly Ala Val Val Phe Asn Gly
1               5                    10                     15
Ile Ala Ala Ser Pro Pro Pro Asp Leu Ser Cys Ile Ile Asp Asp Pro
                20                    25                     30
Tyr Lys Ile Lys Asn Ala Thr Phe Asp Tyr Ile Val Ala Gly Gly Gly
                35                    40                     45
Leu Thr Gly Leu Thr Ala Ala Ile Leu Ser Lys Asn Pro Asn Ile
                50                    55                     60
Ser Val Leu Val Ile Glu Ala Gly Phe Tyr Glu Ser Asp Gln Gly Pro
65                    70                     75                       80
Leu Val Glu Asp Val Asn Glu Tyr Gly Lys Ile Phe Gly Ser Thr Val
                85                    90                     95
Asp Trp Ala Phe Glu Thr Leu Asn Gln Thr Ala Asp Ile Pro Gln Gln
                100                   105                    110
Thr Ile Arg Ser Gly Arg Gly Leu Gly Gly Ser Thr Leu Ile Asn Gly
                115                   120                    125
```

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Ala Xaa Trp Thr Arg Pro His Lys Ile Gln Val Asp Ser Trp Glu Lys
    130                 135                 140
Val Phe Gly Asn Thr Gly Trp Asn Trp Asn Asn Phe Ser Thr Tyr Met
145                 150                 155                 160
Lys Ser Ala Glu Asp Val Arg Lys Pro Asn Asp Ala Glu Ile Arg Ala
                165                 170                 175
Gly His Asn Phe Ile Ser Glu Cys His Gly Lys His Gly Pro Val His
                180                 185                 190
Val Gly Pro Arg Asn Thr Arg Ala His Tyr Ser Pro Leu Met Lys Ala
                195                 200                 205
Leu Met Asp Thr Val Ala Leu Ser Gly Ile Pro Thr Lys Arg Asp Phe
    210                 215                 220
Ser Cys Gly Asn Pro His Gly Val Ser Met Phe Pro Asn Ser Leu His
225                 230                 235                 240
Ala Asn Trp Asn Gln Thr Arg Ser Asp Ala Gly Arg Glu Met Leu Leu
                245                 250                 255
Pro Ser Cys Ser Arg Ser Asn Leu Lys Val Leu Val Gly Gln Val Val
                260                 265                 270
Gly Lys Val Leu Leu Asn Ser Gln Pro Glu Ala Ile Gln Ala His Gly
                275                 280                 285
Val Gln Phe Gly Thr Asn Arg His Ser Asn Phe Glu Val Tyr Ala Arg
    290                 295                 300
His Glu Val Leu Leu Ala Ala Gly Ala Leu Ser Ser Pro Leu Ile Leu
305                 310                 315                 320
Glu Tyr Ser Gly Ile Gly Ile Lys Lys Val Leu Glu Asn Ala Asn Val
                325                 330                 335
Ser Gln Val Leu Glu Leu Pro Val Gly Ile Asn Val Gln Asp Gln Thr
                340                 345                 350
Thr Thr Thr Val Arg Ser Glu Ile Asn Asp Leu Gly Tyr Gly Gln Gly
    355                 360                 365
Gln Ala Ile Tyr Xaa Ala Thr Phe Asn Glu Thr Phe Gly Lys Tyr Ser
    370                 375                 380
Ser Leu Ala His Asn Leu Leu Asn Lys Asn Leu Lys Arg Trp Ala Arg
385                 390                 395                 400
Glu Thr Val Asp Asn Gly Gly Phe Asn Asn Ile Thr Ala Leu Ile Ile
                405                 410                 415
Gln Tyr Glu Asn Tyr Arg Asp Trp Leu Thr Lys Asp Asn Ile Ala Tyr
                420                 425                 430
Ser Glu Leu Phe Met Asp Thr Glu Gly Ala Ile Asn Phe Asp Leu Trp
    435                 440                 445
Thr Leu Ile Pro Phe Thr Arg Gly Phe Val His Ile Leu His Arg Asp
    450                 455                 460
Pro Tyr Leu Arg His Val Met Thr Asn Pro Arg Tyr Phe Gly Asn Glu
465                 470                 475                 480
Leu Asp Ile Leu Gly Gln Ala Ala Ala Ser Lys Leu Ala Arg Asp Leu
                485                 490                 495
Ser Asp Ala Gly Ser Met Ala Arg Phe Tyr Glu Lys Glu Val Ile Pro
                500                 505                 510
Gly Ala Thr Lys Leu Lys Pro Asp Ala Asn Leu Asp Glu Trp Ile Ser
                515                 520                 525
Tyr Val Lys Gln Asn Phe Arg Pro Asn Tyr His Asn Val Gly Ser Cys
    530                 535                 540
Ser Met Met Ala Arg Glu Leu Gly Gly Val Val Asn Pro Gln Gly Lys
545                 550                 555                 560
Val Tyr Asp Val His Gly Leu Arg Val Ile Asp Ala Ser Val Val Pro
                565                 570                 575
Thr Gln Val Ser Ala His Ile Met Thr Val Leu Tyr Gly Met Ala Val
                580                 585                 590
Lys Ile Ser Ala Asp Ile Met Val Asp Tyr His Val Lys Met Glu Lys
    595                 600                 605
Ser Met Leu Glu Thr Ala Lys Leu Glu Leu Lys
    610                 615

<210> 21
<211> 655
<212> PRT
<213> Aspergillus niger
<220>
<221> MISC_FEATURE
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<222>   (163)..(163)
<223>   Xaa is Ser, Ala, Cys, Ile, Asn, Arg, Asp, Thr, Val, Tyr, Glu, His, Met or
Gln
<220>
<221>   MISC_FEATURE
<222>   (422)..(422)
<223>   Xaa is Phe, Ala, Leu, Trp or Tyr, provided that when Xaa163 is Thr, then
Xaa422 is not Phe
<220>
<221>   MISC_FEATURE
<222>   (441)..(441)
<223>   Xaa is any amino acid
<400>   21
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```
Met Lys Phe Pro Ile Leu Ala Ser Ala Leu Leu Leu Ser Gly Val Leu
1               5                   10                  15
Ala Glu His Phe Gln Val Pro Leu Gln His Thr Ile Ser Pro Cys Ser
            20              25                  30
Thr Lys Pro His Thr Ser His Asp Leu Asn His Asn Ile Asn Thr
        35              40              45
Ile Pro His Gly Ile Thr Asp Asp Pro Arg Ser Ile Asp Asn Gln Thr
    50              55              60
Phe Asp Tyr Ile Ile Ala Gly Gly Gly Leu Thr Gly Leu Thr Leu Ala
65              70              75                  80
Ala Lys Leu Val Glu Gln Lys Lys Tyr Thr Val Leu Val Ile Glu Ser
            85              90                  95
Gly Phe Tyr Ala Trp Glu Tyr Gly Pro Lys Ile Asp Asp Leu Asn Thr
            100             105             110
Tyr Gly Gln Val Phe Gly Ser Ser Val Asp His Ala Tyr Glu Thr Ser
        115             120             125
Pro Gln Leu Val Gly Asn Asp Gly Glu Thr Gly Leu Asp Lys Asp Ile
130             135             140
Arg Ile Val Arg Ser Gly Asn Gly Leu Gly Gly Ser Thr Leu Ile Asn
145             150             155             160
Gly Gly Xaa Trp Thr Arg Pro His Lys Ser Gln Leu Asp Ser Trp Glu
            165             170             175
Glu Val Phe Gly Asn Thr Gly Trp Asn Trp Asp Ala Leu Lys Gly Lys
            180             185             190
Met Asp Glu Ile Glu Val Pro Arg Asp Pro Thr Ser Asp Asp Ile Thr
        195             200             205
Lys Gly Ser Phe His Lys Phe Asp Ala Glu Cys His Asn Lys Glu Pro
    210             215             220
Glu Lys Gly Lys Val Lys Val Gly Ala Arg Asp Arg Lys Tyr Gly Trp
225             230             235             240
Ser Pro Leu Ile Arg Ala Leu Met His Thr Val Asn Ser Thr Tyr Glu
            245             250             255
Glu Val Val Asn Gln Lys Asp Leu Cys Cys Gly Asp Pro Thr Gly Val
            260             265             270
Ser Met Phe Leu Asn Thr Leu Thr Asn Glu Gln Ile Arg Thr Asp Ala
        275             280             285
Ala Arg Ser Trp Leu Lys Pro Ile Leu Asp Asp Asp Glu Leu Lys Gln
    290             295             300
Tyr Ile Thr Val Leu Thr Gly Glu Leu Val Gly Lys Val His Leu Asn
305             310             315             320
Glu Ala Asn Pro Ser Glu Thr Gly Thr Glu Phe Lys Ala Lys Gly Val
            325             330             335
Glu Phe Gly Val His Lys Lys Gln Glu Trp Lys Trp Asp Ala Trp Ala
            340             345             350
Arg Lys Glu Val Leu Leu Ala Ala Gly Ser Thr Ile Ser Pro Leu Ile
    355             360             365
Leu Gln Trp Ser Gly Ile Gly Pro Lys Val Trp Leu Asp Ala Ala Gly
    370             375             380
Ile Glu His Lys Leu Glu Leu Pro Val Gly Tyr Asn Leu Gln Asp Gln
385             390             395             400
Thr Thr Thr Ser Val Val Thr Lys Pro Lys Pro Glu Ala Asn Gly Gln
            405             410             415
Gly Gln Ala Ala Tyr Xaa Ala Thr Phe Ala Glu Ile Phe Gly Lys Asp
            420             425             430
Ala Ser Asp Met Glu Lys Leu Leu Xaa Asp Asp Thr Glu Leu Asp Lys
```

```
        435                 440                 445
Trp Ala Glu His Thr Val Asn Gly His Gly Phe Pro Asp Lys Ala Asn
    450                 455                 460
Leu Leu Lys Gln Tyr Lys Asn Tyr Arg Asp Trp Leu Leu Thr Asp Lys
465                 470                 475                 480
Val Ser Tyr Ala Glu Leu Phe Leu Asp Thr Asp Asn Ser Thr His Phe
                485                 490                 495
Asp Leu Trp Asn Leu Ile Pro Phe Thr Arg Gly Tyr Val Lys Ile Leu
            500                 505                 510
Asp Asn Asp Pro Tyr Leu Arg Ser Phe Glu Tyr Asn Pro Arg Tyr Phe
        515                 520                 525
Glu Asn Ile Leu Asp Leu Asn Gly Gln Ala Ala Ala Thr Arg Leu Ala
    530                 535                 540
Arg Gln Leu Thr Asn Thr Tyr Asp Met Lys Gln Tyr Val Asp Lys Glu
545                 550                 555                 560
Gln Val Pro Gly Arg Tyr Val Pro Glu Asn Ala Asn Leu Thr Glu Trp
                565                 570                 575
Ala Asp Tyr Val Lys Gln Asn Tyr Arg Ala Asn Tyr His Gly Val Gly
            580                 585                 590
Thr Cys Ser Met Met Lys Lys Glu Leu Gly Gly Val Val Asp Pro Glu
        595                 600                 605
Ala Lys Val Tyr Gly Val Glu Gly Leu Arg Val Val Asp Gly Ser Ile
    610                 615                 620
Pro Pro Thr Gln Val Ser Ser His Val Met Thr Val Phe Tyr Ala Met
625                 630                 635                 640
Ala Val Lys Ile Ala Glu Ser Val Ile Lys Asp Ala Gly Asn Ala
            645                 650                 655
```

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<210>   22
<211>   30
<212>   DNA
<213>   Artificial Sequence
<220>
<223>   primer for point mutation
<400>   22
cttgataaac ggtgacgcgt ggactcgccc                                    30
<210>   23
<211>   30
<212>   DNA
<213>   Artificial Sequence
<220>
<223>   primer for point mutation
<400>   23
gggcgagtcc acgcgtcacc gtttatcaag                                    30
<210>   24
<211>   30
<212>   DNA
<213>   Artificial Sequence
<220>
<223>   primer for point mutation
<400>   24
caggccgtct tcgcggccaa tttcactgag                                    30
<210>   25
<211>   30
<212>   DNA
<213>   Artificial Sequence
<220>
<223>   primer for point mutation
<400>   25
ctcagtgaaa ttggccgcga agacggcctg                                    30
<210>   26
<211>   32
<212>   DNA
<213>   Artificial Sequence
<220>
<223>   primer for point mutation
<400>   26
gtcaggccgt cttcctggcc aatttcactg ag                                 32
<210>   27
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```
<211>  32
<212>  DNA
<213>  Artificial Sequence
<220>
<223>  primer for point mutation
<400>  27
ctcagtgaaa ttggccagga agacggcctg ac                          32
<210>  28
<211>  30
<212>  DNA
<213>  Artificial Sequence
<220>
<223>  primer for point mutation
<400>  28
caggccgtct tcccggccaa tttcactgag                             30
<210>  29
<211>  30
<212>  DNA
<213>  Artificial Sequence
<220>
<223>  primer for point mutation
<400>  29
ctcagtgaaa ttggccggga agacggcctg                             30
<210>  30
<211>  30
<212>  DNA
<213>  Artificial Sequence
<220>
<223>  primer for point mutation
<400>  30
caggccgtct tctgggccaa tttcactgag                             30
<210>  31
<211>  30
<212>  DNA
<213>  Artificial Sequence
<220>
<223>  primer for point mutation
<400>  31
ctcagtgaaa ttggcccaga agacggcctg                             30
<210>  32
<211>  26
<212>  DNA
<213>  Artificial Sequence
<220>
<223>  primer for point mutation
<400>  32
caggccgtct tctacgccaa tttcac                                 26
<210>  33
<211>  26
<212>  DNA
<213>  Artificial Sequence
<220>
<223>  primer for point mutation
<400>  33
gtgaaattgg cgtagaagac ggcctg                                 26
```

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