SEQUENCE LISTING

<110> GENETHON et al.

<120> ACID-ALPHA GLUCOSIDASE VARIANTS AND USES THEREOF

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<170> PatentIn version 3.3

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Gly Ser Ser Pro Val
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Ala Ser Arg Pro Gly
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Arg Ala Val Pro Thr
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Gln Cys Asp Val Pro Pro Asn Ser Arg Phe Asp
Cys Ala Pro Asp Lys
85 90
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Ala Ile Thr Gln Glu Gln Cys Glu Ala Arg Gly
Cys Cys Tyr Ile Pro
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Ala Lys Gln Gly Leu Gln Gly Ala Gln Met Gly
His Pro Trp Cys Phe
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Phe Pro Pro Ser Tyr Pro Ser Tyr Lys Leu Glu
Asn Leu Ser Ser Ser
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Thr Pro Thr Phe Phe
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Pro Lys Asp Ile Leu Thr Leu Arg Leu Asp Val
Met Met Glu Thr Glu
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Asn Arg Leu His Phe Thr Ile Lys Asp Pro Ala
Asn Arg Arg Tyr Glu
180 185
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Val Pro Leu Glu Thr Pro His Val His Ser Arg
Ala Pro Ser Pro Leu
195 200
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Tyr Ser Val Glu Phe Ser Glu Glu Pro Phe Gly
Val Ile Val Arg Arg
210 215
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Gln Leu Asp Gly Arg Val Leu Leu Asn Thr Thr
Val Ala Pro Leu Phe
225 230 235
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Phe Ala Asp Gln Phe Leu Gln Leu Ser Thr Ser
Leu Pro Ser Gln Tyr
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Ile Thr Gly Leu Ala Glu His Leu Ser Pro Leu
Met Leu Ser Thr Ser
260 265
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Met Asn Glu Pro Ser
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His Asn Leu Tyr Gly Leu Thr Glu Ala Ile Ala
Ser His Arg Ala Leu
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Ala Ser Arg Pro Gly Pro Arg Asp Ala Gln Ala
His Pro Gly Arg Pro
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Asn Ser Arg Phe Asp
355 360 365

Cys Ala Pro Asp Lys Ala Ile Thr Gln Glu Gln
Cys Glu Ala Arg Gly
370 375 380

Cys Cys Tyr Ile Pro Ala Lys Gln Gly Leu Gln
Gly Ala Gln Met Gly
385 390 395
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Gln Pro Trp Cys Phe Phe Pro Pro Ser Tyr Pro
Ser Tyr Lys Leu Glu
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Leu Arg Leu Asp Val
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Lys Val Thr Val Leu
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885 890 895

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agttagctaa tgcaacatat atcactttgt tttttcacaa
ctacagtgac tttttgtatt 780

tcccagaggga aggcatacag ggaagaaatt atcccatttg
gacaaacagc ttgttctcac 840

accaggatca ggggtgccaa ccctaagcac ccccagaaag
ctgactggcc ctgtgagtcc 960

cactccctgac atgatctgcag ctgtgaaatc gacgtcgctg
gaccataatt aggcttctgt 1020

tcttcaggag acaattgttc aaagatcctt gggcaaccat
attctgaaaa cagcccagcc 1080

aggggttgtg ttcacctttgc aaagatcctc attgagctat
tttcaagtgt tgacaaagtg 1140

tgaagttaac cgctcatttg agaacttttct tttttcatcca
aagtaaattc aaatatgatt 1200

agaaatctga cctttttatta ctggaattct cttgactaaa
agtaaaattg aattttaatt 1260

cctaaatctc catgtgtata cagtactgtg ggacatcac
agatttggac tccatgccct 1320

aaagagaaat tggctttcag attatttgga ttaaaaacaa
aaagctctct aagagatgta 1380

aaattttctt gtgttttctt tttttgctaa aactaaagaa
ttattctttt acatttcca 1438

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<211> 881
<212> DNA
<213> artificial

<220>
<223> chicken beta-globin intron

<400> 10
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gccgccgcct cgcgccgccc 60

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gggcgggacg gcccttctcc 120

tccggctgtt aattagcgct tgtttaatg acggcttgtt
cttttctgtt ggctgcgtga 180

aagcctttag ggcctccggg acggccctttt gtgcgggggg
agcggctcgg gggtgcgtg 240

cgtgtgtgtg tgcgtgggga gcgccgcgtg cggctccgcg
cccccccgcg gctgtgagcg 300

ctgcgggcgc ggcgcggggc tttgtgcgct ccgcagtgtg
cgcgagcggg gcgcggccgg 360

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cccccccccc cccccccccc 420

cccccccccc cgagttgctg agcacggccc ggcttcgggt
gcggggctcc ctacgggggcg 540

tggcgcgggg ctcgccgtgc cggcgggggg gtggcggcag
cgcgcgcccg cgcgcgcccc 660

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cccccccccc cccccccccc 780

cccctctagc cccccccccc cccccccccc cccccccccc
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cccccccccc cccccccccc 881

<210> 12
<211> 952
<212> PRT
<213> homo sapiens

<400> 12
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Leu Leu Ala Val Cys
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Ala Leu Val Ser Leu Ala Thr Ala Ala Leu Leu
Gly His Ile Leu Leu
20 25
30

His Asp Phe Leu Val Pro Arg Glu Leu Ser
Gly Ser Ser Pro Val
35 40
45

Leu Glu Glu Thr His Pro Ala His Gln Gln Gly
Ala Ser Arg Pro Gly
50 55 60

Pro Arg Asp Ala Gln Ala His Pro Gly Arg Pro
Arg Ala Val Pro Thr
65 70 75
80

Gln Cys Asp Val Pro Pro Asn Ser Arg Phe Asp
Cys Ala Pro Asp Lys
85 90
95

Ala Ile Thr Gln Glu Gln Cys Glu Ala Arg Gly
Cys Cys Tyr Ile Pro
100 105
110

Ala Lys Gln Gly Leu Gln Gly Ala Gln Met Gly
His Pro Trp Cys Phe
115 120
125

Phe Pro Pro Ser Tyr Pro Ser Tyr Lys Leu Glu
Asn Leu Ser Ser Ser
130 135
140

Glu Met Gly Thr Val Thr Ala Thr Leu Thr Arg Thr
Thr Pro Thr Phe Phe
145 150 155
160

Pro Lys Asp Ile Leu Thr Leu Arg Leu Asp Val
Met Met Glu Thr Glu
165 170
175

Asn Arg Leu His Phe Thr Ile Lys Asp Pro Ala
Asn Arg Arg Tyr Glu
180 185
190

Val Pro Leu Glu Thr Pro His Val His Ser Arg
Ala Pro Ser Pro Leu
195 200
205

Tyr Ser Val Glu Phe Ser Glu Glu Pro Phe Gly
Val Ile Val Arg Arg
210 215
220

Gln Leu Asp Gly Arg Val Leu Leu Asn Thr Thr
Val Ala Pro Leu Phe
225 230 235
240

Phe Ala Asp Gln Phe Leu Gln Leu Ser Thr Ser
Leu Pro Ser Gln Tyr
245 250
255

Ile Thr Gly Leu Ala Glu His Leu Ser Pro Leu
Met Leu Ser Thr Ser
260 265
270

Asp Gln Val Pro Phe Asp Gly Met Trp Ile Asp
Met Asn Glu Pro Ser
275 280 285

Asn Phe Ile Arg Gly Ser Glu Asp Gly Cys Pro
Asn Asn Glu Leu Glu
290 295 300

Ala Val Pro Thr Gln Cys Asp Val Pro Pro
Ala His Gln Gln Gly
305 310 315
320

His Asn Leu Tyr Gly Leu Thr Glu Ala Ile Ala
Ser His Arg Ala Leu
325 330 335

Ala Ser Arg Pro Gly Pro Arg Asp Ala Gln Ala
His Pro Gly Arg Pro
340 345 350

Arg Ala Val Pro Thr Gln Cys Asp Val Pro Pro
Asn Ser Arg Phe Asp
355 360 365

Cys Ala Pro Asp Lys Ala Ile Thr Gln Glu Gln
Cys Glu Ala Arg Gly
370 375 380

Cys Cys Tyr Ile Pro Ala Lys Gln Gly Leu Gln
Gly Ala Gln Met Gly
385 390 395
400

Gln Pro Trp Cys Phe Phe Pro Pro Ser Tyr Pro
Ser Tyr Lys Leu Glu
405 410 415

Asn Leu Ser Ser Ser Glu Met Gly Tyr Thr Ala
Thr Leu Thr Arg Thr
420 425 430

Thr Pro Thr Phe Phe Pro Lys Asp Ile Leu Thr
Leu Arg Leu Asp Val
435 440 445

Met Met Glu Thr Glu Asn Arg Leu His Phe Thr
Ile Lys Asp Pro Ala
450 455 460

Asn Arg Arg Tyr Glu Val Pro Leu Glu Thr Pro
His Val His Ser Arg
465 470 475
480

Ala Pro Ser Pro Leu Tyr Ser Val Glu Phe Ser
Glu Glu Pro Phe Gly
485 490 495

Val Ile Val Arg Arg Gln Leu Asp Gly Arg Val
Leu Leu Asn Thr Thr
500 505 510

Val Ala Pro Leu Phe Phe Ala Asp Gln Phe Leu
Gln Leu Ser Thr Ser
515 520 525

Leu Pro Ser Gln Tyr Ile Thr Gly Leu Ala Glu
His Leu Ser Pro Leu
530 535 540

Met Leu Ser Thr Ser Trp Thr Arg Ile Thr Leu
Trp Asn Arg Asp Leu
545 550 555
560

Ala Pro Thr Pro Gly Ala Asn Leu Tyr Gly Ser
His Pro Phe Tyr Leu
565 570 575

Ala Leu Glu Asp Gly Gly Ser Ala His Gly Val
Phe Leu Leu Asn Ser
580 585 590

Asn Ala Met Asp Val Val Leu Gln Pro Ser Pro
Ala Leu Ser Trp Arg
595 600 605

Ser Thr Gly Gly Ile Leu Asp Val Tyr Ile Phe
Leu Gly Pro Glu Pro
610 615 620

Lys Ser Val Val Gln Gln Tyr Leu Asp Val Val
Gly Tyr Pro Phe Met
625 630 635
640

Pro Pro Tyr Trp Gly Leu Gly Phe His Leu Cys
Arg Trp Gly Tyr Ser
645 650 655

Ser Thr Ala Ile Thr Arg Gln Val Val Glu Asn
Met Thr Arg Ala His
660 665 670

Phe Pro Leu Asp Val Gln Trp Asn Asp Leu Asp
Tyr Met Asp Ser Arg
675 680 685

Arg Asp Phe Thr Phe Asn Lys Asp Gly Phe Arg
Asp Phe Pro Ala Met
690 695 700

Val Gln Glu Leu His Gln Gly Gly Arg Arg Tyr
Met Met Ile Val Asp
705 710 715
720

Pro Ala Ile Ser Ser Ser Gly Pro Ala Gly Ser
Tyr Arg Pro Tyr Asp
725 730 735

Glu Gly Leu Arg Arg Gly Val Phe Ile Thr Asn
Glu Thr Gly Gln Pro
740 745 750

Leu Ile Gly Lys Val Trp Pro Gly Ser Thr Ala
Phe Pro Asp Phe Thr
755 760 765

Asn Pro Thr Ala Leu Ala Trp Trp Glu Asp Met
Val Ala Glu Phe His
770 775 780

Pro Ala Ile Ser Ser Gly Val Ala Arg Pro
Leu Pro Ala Pro Leu
785 790 795
800

Asp Thr Ile Asn Val His Leu Arg Ala Gly Tyr
Ile Ile Pro Leu Gln
805 810 815

Gly Pro Gly Leu Thr Thr Thr Glu Ser Arg Gln
Gln Pro Met Ala Leu
820 825 830

Asp Asp Gly Glu Ser Leu Glu Val Leu Glu Arg
Gly Ala Tyr Thr Gln
835 840 845

Val Ile Phe Leu Ala Arg Asn Asn Thr Ile Val
Asn Glu Leu Val Arg
850 855 860

Val Thr Ser Glu Gly Ala Gly Leu Gln Leu Gln
Lys Val Thr Val Leu
865 870 875
880

Gly Val Ala Thr Ala Pro Gln Gln Val Leu Ser
Asn Gly Val Pro Val
885 890 895

Ser Asn Phe Thr Tyr Ser Pro Asp Thr Lys Val
Leu Asp Ile Cys Val
900 905 910

Ser Leu Leu Met Gly Glu Gln Phe Leu Val Ser
Trp Cys
915 920
925

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<211> 441
<212> DNA
<213> artificial

<220>
<223> HBB2 intron

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cccccccccc cccccccccc 240

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<210> 7
<211> 441
<212> DNA
<213> artificial

<220>
<223> modified HBB2 intron

<400> 7
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attttaaaaa atgcttttctt 60

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