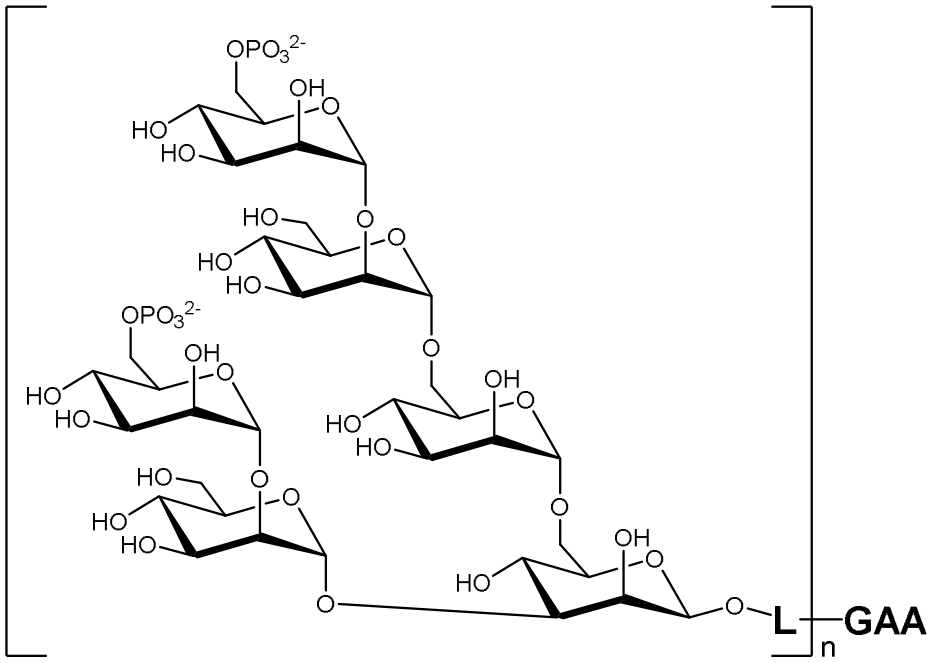
CLAIMS

What is claimed is:

1. Use of a pharmaceutical composition comprising an oligosaccharide-protein conjugate and a pharmaceutically acceptable carrier, in the manufacture of a medicament for treating late-onset Pompe disease (LOPD) in a human individual, wherein the oligosaccharide-protein conjugate has a structure of Formula I:



(I),

wherein GAA is acid α-glucosidase, L is a chemical linker connecting the oligosaccharide and the GAA, and n is 1 to 10,

wherein the pharmaceutical composition is to be administered at a dose of about 20 mg/kg,

wherein the individual has one or more of the following characteristics:

(a) the individual is about 3 years old to about 18 years old at the start of the treatment;

(b) the individual has a forced vital capacity (FVC) percentage of predicted value of about 30% to about 50% before receiving the treatment; and

(c) the individual is able to ambulate about 40 meters to about 50 meters without stopping or using an assistive device before receiving the treatment.

2. The use of claim 1, wherein the individual:

a. is about 3 years old to about 18 years old at the start of the treatment;

b. has a forced vital capacity (FVC) percentage of predicted value of about 30% to about 50% before receiving the treatment; and/or

c. is able to ambulate about 40 meters to about 50 meters without stopping or using an assistive device before receiving the treatment.

3. The use of claim 1 or 2, wherein administration of the pharmaceutical composition to a plurality of human individuals for 49 weeks results in one or more of the following:

(a) an average increase of FVC% in an upright position of at least about 1.1%, at least about 2.3%, or at least about 4.6%;

(b) an average increase of 6-minute walk test (6MWT) distance of at least about 12.5 m, at least about 23 m, or at least about 50 m;

(c) an average increase in 6MWT percentage of predicted value (6MWT%) of at least about 2%, at least about 3.5%, or at least about 8%;

(d) an average increase in maximum inspiratory pressure percentage of predicted value (MIP%) in an upright position of at least about 4.5%, at least about 8.7%, or at least about 12.5%;

(e) an average increase in maximum expiratory pressure percentage (MEP%) in an upright position of at least about 5.2%, at least about 10.9%, at least about 14.3%, or at least about 16.5%;

(f) an average increase in hand-held dynamometry (HHD) score for lower extremities of at least about 170 Newtons (N), at least about 250 N, or at least about 350 N;

(g) an average increase in HHD score for upper extremities of at least about 95 N, at least about 190 N, or at least about 245N;

(h) an average increase in quick motor function test (QMFT) total score of at least about 2.7, at least about 3.3, or at least about 5.2;

(i) an average change of Gait, Stair, Gower's Maneuver, and Chair (GSGC) score of at least about -0.9, at least about -0.35, or at least about 0.40;

(j) an average increase of GMFM-88 Dimension D score of at least about 2.2, at least about 3.3, or at least about 5.8;

(k) an average increase of GMFM-88 Dimension E score of at least about 0.7, at least about 4.5, or at least about 5.2;

(l) an average increase in health-related quality of life Short Form 12 Health Survey (SF-12) physical component score (PCS) of at least about 0.4, at least about 3.7, or at least about 4.3%;

(m) an average increase in SF-12 mental component score (MCS) of at least about 0.45, at least about 3.4, or at least about 5.3;

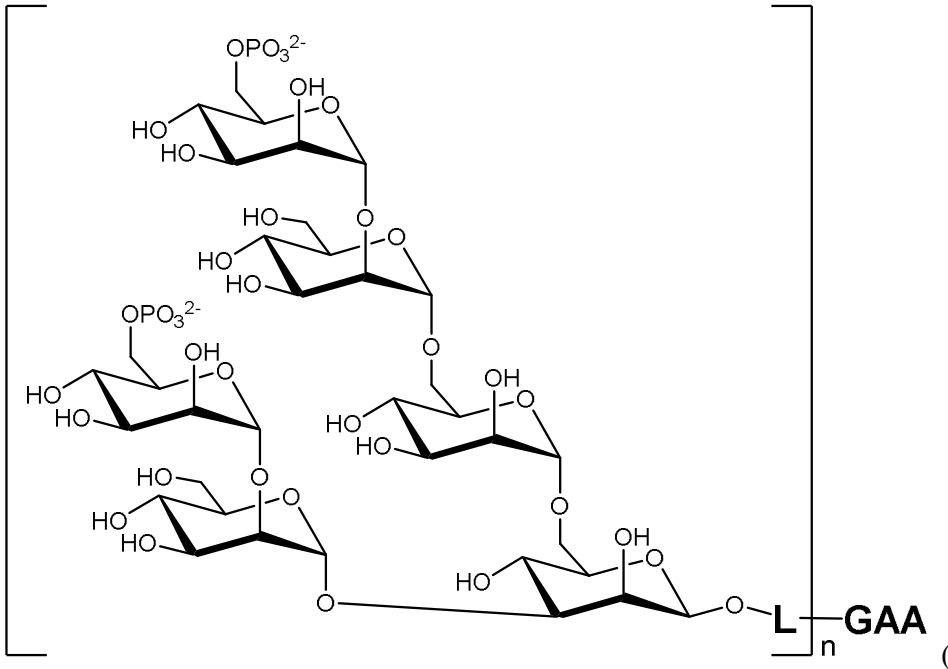
(n) an average decrease in urinary HEX4 level of at least about 30%, at least about 43%, or at least about 78%;

(o) an average decrease in creatine kinase level of at least about 13%, at least about 39%, or at least about 63%;

(p) an average decrease in alanine aminotransferase (ALT) level of at least about 19%, at least about 38%, or at least about 68%; and

(q) an average decrease in aspartate aminotransferase (AST) level of at least about 26%, at least about 33%, or at least about 66%.

4. Use of a pharmaceutical composition comprising an oligosaccharide-protein conjugate and a pharmaceutically acceptable carrier, in the manufacture of a medicament for treating late-onset Pompe disease (LOPD) in a human individual, wherein the oligosaccharide-protein conjugate has a structure of Formula I:



(I),

wherein GAA is acid α-glucosidase, L is a chemical linker connecting the oligosaccharide and the GAA, and n is 1 to 10,

wherein the pharmaceutical composition is to be administered at a dose of about 20 mg/kg, and

wherein administration of the pharmaceutical composition to a plurality of human individuals for 49 weeks results in one or more of the following:

(a) an average increase of FVC% in an upright position of at least about 1.1%, at least about 2.3%, or at least about 4.6%;

(b) an average increase of 6-minute walk test (6MWT) distance of at least about 12.5 m, at least about 23 m, or at least about 50 m;

(c) an average increase in 6MWT percentage of predicted value (6MWT%) of at least about 2%, at least about 3.5%, or at least about 8%;

(d) an average increase in maximum inspiratory pressure percentage of predicted value (MIP%) in an upright position of at least about 4.5%, at least about 8.7%, or at least about 12.5%;

(e) an average increase in maximum expiratory pressure percentage (MEP%) in an upright position of at least about 5.2%, at least about 10.9%, at least about 14.3%, or at least about 16.5%;

(f) an average increase in hand-held dynamometry (HHD) score for lower extremities of at least about 170 Newtons (N), at least about 250 N, or at least about 350 N;

(g) an average increase in HHD score for upper extremities of at least about 95 N, at least about 190 N, or at least about 245N;

(h) an average increase in quick motor function test (QMFT) total score of at least about 2.7, at least about 3.3, or at least about 5.2;

(i) an average change of Gait, Stair, Gower's Maneuver, and Chair (GSGC) score of at least about -0.9, at least about -0.35, or at least about 0.40;

(j) an average increase of GMFM-88 Dimension D score of at least about 2.2, at least about 3.3, or at least about 5.8;

(k) an average increase of GMFM-88 Dimension E score of at least about 0.7, at least about 4.5, or at least about 5.2;

(l) an average increase in health-related quality of life Short Form 12 Health Survey (SF-12) physical component score (PCS) of at least about 0.4, at least about 3.7, or at least about 4.3%;

(m) an average increase in SF-12 mental component score (MCS) of at least about 0.45, at least about 3.4, or at least about 5.3;

(n) an average decrease in urinary HEX4 level of at least about 30%, at least about 43%, or at least about 78%;

(o) an average decrease in creatine kinase level of at least about 13%, at least about 39%, or at least about 63%;

(p) an average decrease in alanine aminotransferase (ALT) level of at least about 19%, at least about 38%, or at least about 68%; and

(q) an average decrease in aspartate aminotransferase (AST) level of at least about 26%, at least about 33%, or at least about 66%.

5. The use of claim 4, wherein the individual is at least about 45 years old or between about 18 years old and about 45 years old.

6. The use of claim 4, wherein the individual is no more than about 18 years old.

7. The use of claim 4 or 5, wherein the individual is diagnosed with Pompe disease at an age of at least about 18 years old.

8. The use of claim 4, 5, or 7, wherein the individual shows the first symptom of Pompe Disease at an age of at least about 18 years old.

9. The use of any one of the preceding claims, wherein administration of the pharmaceutical composition to a plurality of human individuals for 49 weeks results in one or more of the following:

(a) an average increase of FVC% in an upright position of about 2.89% within a 95% confidence interval of about 1.1% to about 4.7%;

(b) an average increase of 6-minute walk test (6MWT) distance of about 32.2 meters within a 95% confidence interval of about 12.4 meters to about 52 meters;

(c) an average increase in 6MWT percentage of predicted value (6MWT%) of about 5.0% within a 95% confidence interval of about 1.9% to about 8.1%;

(d) an average increase in maximum inspiratory pressure percentage of predicted value (MIP%) in an upright position of about 8.7% within a 95% confidence interval of about 4.5% to about 12.9%;

(e) an average increase in maximum expiratory pressure percentage (MEP%) in an upright position of at least about 10.9% within a 95% confidence interval of about 5.2% to about 16.5%;

(f) an average increase in hand-held dynamometry (HHD) score for lower extremities of about 260 Newtons (N) within a 95% confidence interval of about 169 N to about 352 N;

(g) an average increase in HHD score for upper extremities of about 174 N within a 95% confidence interval of about 97.8 N to about 249N;

(h) an average increase in quick motor function test (QMFT) total score of about 4.0 within a 95% confidence interval of about 2.7 to about 5.2;

(i) an average change of Gait, Stair, Gower's Maneuver, and Chair (GSGC) score of about -0.25 within a 95% confidence interval of about -0.94 to about 0.43;

(j) an average increase of GMFM-88 Dimension D score of about 4.0 within a 95% confidence interval of about 2.2 to about 5.8;

(k) an average increase of GMFM-88 Dimension E score of about 2.6 within a 95% confidence interval of about 0.72 to about 4.5;

(l) an average increase in health-related quality of life Short Form 12 Health Survey (SF-12) physical component score (PCS) of 2.4 within a 95% confidence interval of about 0.40 to about 4.4;

(m) an average increase in SF-12 mental component score (MCS) of 2.9 within a 95% confidence interval of about 0.45 to about 5.3;

(n) an average decrease in urinary HEX4 level of about 10.8% with a standard deviation of about 24.0%;

(o) an average decrease in creatine kinase level of about 38.0% with a standard deviation of about 24.9%;

(p) an average decrease in alanine aminotransferase (ALT) level of about 43.3% with a standard deviation of about 24.7%; and

(q) an average decrease in aspartate aminotransferase (AST) level of about 46.1% with a standard deviation of about 20.2%.

10. The use of any one of the preceding claims, wherein the individual

a. has not previously received treatment with a recombinant GAA; or

b. has previously received treatment with a recombinant GAA .

11. The use of claim 10, wherein the recombinant GAA is alglucosidase alfa.

12. The use of any one of claims 4-11, wherein prior to the treatment, the individual has a forced vital capacity percentage of predicted value (FVC%) in an upright position between about 30% and about 85%, optionally, wherein prior to the treatment, the individual is able to ambulate for at least about 40 meters without stopping and without an ambulation assistance device.

13. The use of any one of the preceding claims, wherein the individual:

a. does not have Pompe-specific cardiac hypertrophy;

b. has confirmed GAA enzyme deficiency from any tissue source and/or at least 2 confirmed GAA gene variants;

c. is to be administered with the pharmaceutical composition for at least about 49 weeks;

d. has stable Mercuri scores, 3-point Dixon fat fraction, and/or T2 water with or without B1 correction according to skeletal muscle magnetic resonance imaging (MRI) over the course of the treatment;

e. has lower risk of infusion-associated reaction (IARs) after receiving the treatment compared to that after treatment with alglucosidase alfa; and/or

f. has decreasing level of antidrug antibody (ADA) against the oligosaccharide-protein conjugate over time.

14. The use of any one of the preceding claims, wherein the pharmaceutical composition is to be administered:

a. to the individual once every two weeks; and/or

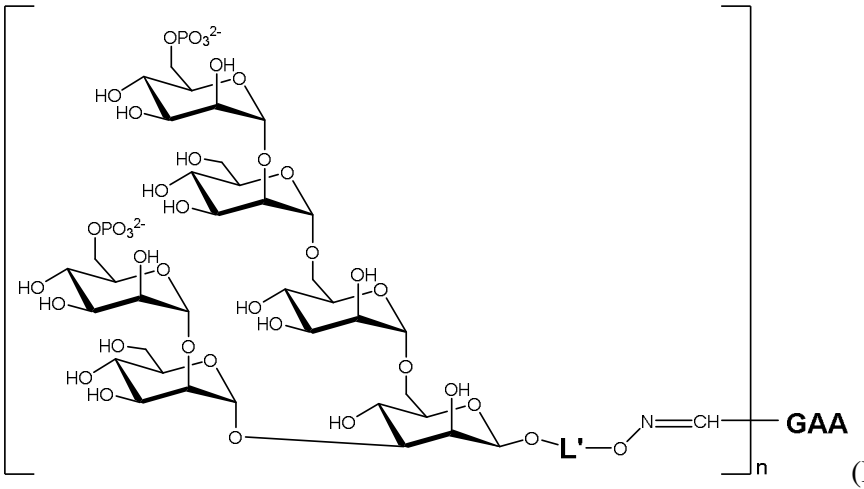
b. intravenously.

15. The use of any one of the preceding claims, wherein the pharmaceutical composition is reconstituted from a lyophilized formulation comprising the oligosaccharide-protein conjugate.

16. The use of claim 15, wherein the pharmaceutically acceptable carrier comprises about 10-50 mM histidine, about 0.25-2% glycine, about 1-4% mannitol, and about 0.005-0.05%

polysorbate 80, optionally, wherein the pharmaceutically acceptable carrier comprises about 10 mM histidine, about 2% glycine, about 2% mannitol, and about 0.01% polysorbate 80.

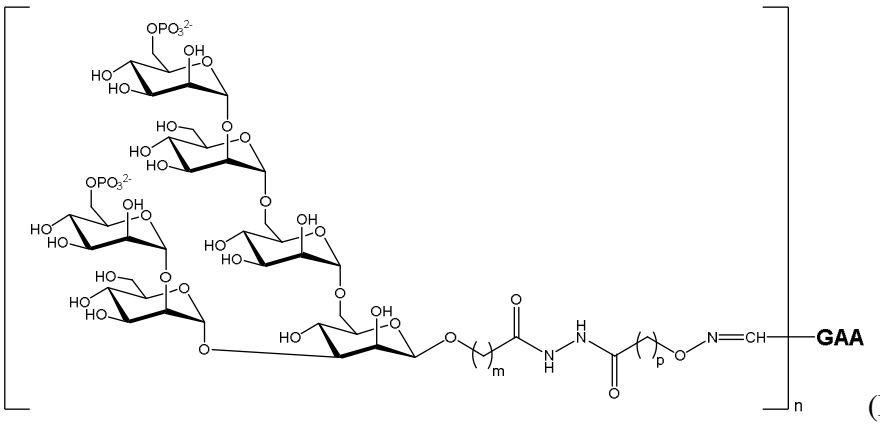
17. The use of any one of the preceding claims, wherein the oligosaccharide-protein conjugate has a structure of Formula II:



(II),

wherein GAA is acid α-glucosidase, L' is a chemical linker, and n is 1 to 10.

18. The use of claim 17, wherein the oligosaccharide-protein conjugate has a structure of Formula III:



(III),

wherein GAA is acid α-glucosidase, n is 1 to 10, and wherein m and p are independently chosen from integers ranging from 1 to 10, optionally, wherein m is 3 and p is 1 and/or wherein n is 5-7.

19. The use of any one of claims 1-18, wherein the GAA is a human GAA produced in Chinese hamster ovary (CHO) cells, optionally, wherein the human GAA has glycoform alfa.

20. The use of any one of the preceding claims, wherein the oligosaccharide-protein conjugate is avalglucosidase alfa.