CLAIMS

1. A composition comprising recombinant human alpha glucosidase (rhGAA), wherein 40%-60% of the N-glycans on the rhGAA are complex type N-glycans, and wherein each rhGAA molecule on average comprises at least one bis-phosphorylated mannose-6-phosphate (bis-M6P glycan).

2. The composition of claim 1, wherein at least 17% of the total glycans on the rhGAA are bis-M6P glycans.

3. The composition of claim 1, wherein the rhGAA comprises the amino acid sequence that is at least 90% identical to SEQ ID NO: 4.

4. The composition of claim 1, wherein the rhGAA comprises at least 3.0 mol mannose-6-phosphate (M6P) residues per mol rhGAA.

5. The composition of claim 4, wherein the rhGAA comprises at least 4.0 mol M6P residues per mol rhGAA.

6. The composition of claim 4, wherein the rhGAA comprises at least 5.0 mol M6P residues per mol rhGAA.

7. The composition of claim 4, wherein the rhGAA comprises at least 6.0 mol M6P residues per mol rhGAA.

8. The composition of claim 4, wherein the rhGAA comprises at least 7.0 mol M6P residues per mol rhGAA.

9. The composition of claim 4, wherein the rhGAA comprises from 3.0 mol to 6.0 mol M6P residues per mol rhGAA.

10. The composition of claim 4, wherein the rhGAA comprises from 3.0 mol to 7.0 mol M6P residues per mol rhGAA.

11. A pharmaceutical composition comprising the rhGAA of claim 1 and at least one pharmaceutically acceptable carrier or excipient.

12. The pharmaceutical composition of claim 11, wherein the pharmaceutically acceptable carrier is water.

13. The pharmaceutical composition of claim 11, wherein the composition is in the form of a lyophilized powder.

14. The pharmaceutical composition of claim 11, wherein the composition comprises mannitol.

15. The pharmaceutical composition of claim 11, wherein the composition comprises polysorbate 80.

16. The pharmaceutical composition of claim 11, wherein the composition comprises a pH buffer.