What is claimed is:

1. Use of a recombinant vector carrying an expression cassette encoding a human iduronate-2-sulfatase (IDS) in the manufacture of a medicament for treatment of mucopolysaccharidosis II (MPS II) in a human subject, wherein the recombinant vector is for administration to the human subject via an intracisternal (IC) injection or intracerebroventricular (ICV) injection, and wherein a glycosylated recombinant human IDS is produced by human neuronal cells or human glial cells after administration of the recombinant vector to the human subject.

2. Use of a glycosylated recombinant human iduronate-2-sulfatase (IDS) produced by human neuronal cells or human glial cells, for treatment of mucopolysaccharidosis II (MPS II) in a human subject, wherein the glycosylated recombinant human IDS is for delivery to the human subject after administration of a composition comprising a recombinant vector carrying an expression cassette encoding a recombinant human iduronate-2-sulfatase (IDS) and a physiologically compatible carrier to the human subject via an intracisternal (IC) injection or intracerebroventricular (ICV) injection.

3. The use of claim 1 or 2, wherein the glycosylated recombinant human IDS is about 90 kDa as measured by polyacrylamide gel electrophoresis.

4. The use of any one of claims 1 to 3, wherein the glycosylated recombinant human IDS is to be delivered to the cerebrospinal fluid (CSF) of the brain of the human subject.

5. The use of any one of claims 1 to 4, wherein the recombinant vector is a recombinant adeno-associated virus (AAV) vector.

6. The use of claim 5, wherein the recombinant AAV vector comprises an AAV9 capsid protein or a recombinant AAV9 capsid protein.

7. The use of claim 5, wherein the recombinant AAV vector comprises an AAVrh10 capsid protein or a recombinant AAVrh10 capsid protein.

8. The use of any one of claims 1 and 3 to 7, wherein the recombinant vector is for a single administration to the human subject, thereby treating the human subject.

9. The use of any one of claims 2 to 7, wherein the composition is for a single administration to the human subject, thereby treating the human subject.

10. The use of claim 8 or 9, wherein the single administration is from 1.1×10^{10} genome copies (GC)/g brain mass to 6.5×10^{10} GC/g brain mass.

11. The use of claim 8 or 9, wherein the single administration is from 7.8×10^{12} GC to 8.5×10^{13} GC.

12. The use of claim 8 or 9, wherein the single administration is 1.3×10^{10} GC/g brain mass.

13. The use of claim 8 or 9, wherein the single administration is 6.5×10^{10} GC/g brain mass.

14. The use of any one of claims 1 to 13, wherein the human subject is 10 years old or younger.

15. The use of any one of claims 1 to 13, wherein the human subject is between 4 months old to or less than about 5 years old.

16. The use of any one of claims 1 to 13, wherein the human subject is about or at most about 18 months old.

17. The use of any one of claims 1 to 13, wherein the human subject is about or at least about 3 years old.

18. The use of any one of claims 1 to 13, wherein the human subject is 3 years old to 8 years old.

19. The use of any one of claims 1 to 13, wherein the human subject is a pediatric human subject.

20. The use of any one of claims 1 to 19, wherein the recombinant vector comprises a CB7 promoter.

21. The use of any one of claims 1, 3 to 8, and 10 to 20, wherein the human subject has severe MPS II prior to a first administration of the recombinant vector to the human subject.

22. The use of any one of claims 2 to 7, and 9 to 20, wherein the human subject has severe MPS II prior to a first administration of the composition to the human subject.

23. The use of any one of claims 1, 3 to 8, and 10 to 21, wherein a depot is formed in the central nervous system of the human subject after the administration of the recombinant vector to the human subject, and wherein the depot secretes the glycosylated recombinant human IDS.

24. The use of any one of claims 2 to 7, 9 to 20, and 22, wherein a depot is formed in the central nervous system of the human subject after the administration of the composition to the human subject, and wherein the depot secretes the glycosylated recombinant human IDS.