WHAT IS CLAIMED IS:

1. A method of producing one or more aggregated organoids, comprising:

differentiating definitive endoderm to a gut endoderm monolayer and gut spheroids, wherein the gut endoderm monolayer is adherent and the gut spheroids are detached and suspended in a growth medium;

separating the gut endoderm monolayer from the gut spheroids;

dissociating the gut endoderm monolayer to a single cell suspension of gut endoderm cells;

aggregating the single cell suspension of gut endoderm cells into one or more gut endoderm aggregates; and

culturing the one or more gut endoderm aggregates to produce the one or more aggregated organoids.

2. The method of claim 1, wherein the definitive endoderm has been differentiated from pluripotent stem cells.

3. The method of any one of the preceding claims, wherein the separating step comprises aspirating the growth medium and suspended gut spheroids from the gut endoderm monolayer.

4. The method of any one of the preceding claims, wherein the dissociating step comprises enzymatically dissociating the gut endoderm monolayer.

5. The method of any one of the preceding claims, wherein the aggregating step comprises aggregating the single cell suspension in hanging drops, centrifuging the single cell suspension in a “v” or “u”-bottomed microwell culture plate, aggregating the single cell suspension using an orbital shaker, or centrifuging the single cell suspension in a formation plate, or any combination thereof.

6. The method of any one of the preceding claims, wherein the culturing step comprises contacting the one or more gut endoderm aggregates with an extracellular matrix, or mimetic or derivative thereof.

7. The method of any one of the preceding claims, wherein the gut endoderm monolayer is a foregut endoderm monolayer and the gut spheroids are foregut spheroids.

8. The method of claim 7, wherein differentiating the definitive endoderm to the foregut endoderm monolayer and the foregut spheroids comprises contacting the definitive

endoderm with one or more FGF signaling pathway activators, one or more Wnt signaling pathway activators, or one or more BMP signaling pathway inhibitors, or any combination thereof.

9. The method of any one of claims 7-8, wherein the one or more aggregated organoids are aggregated liver organoids.

10. The method of claim 9, wherein culturing the one or more gut endoderm aggregates to form the one or more aggregated liver organoids comprises contacting the one or more gut endoderm aggregates with one or more FGF signaling pathway activators, one or more BMP signaling pathway activators, retinoic acid, hepatocyte growth factor, dexamethasone, or Oncostatin M, or any combination thereof.

11. The method of any one of claims 7-8, wherein the one or more aggregated organoids are aggregated gastric organoids.

12. The method of claim 11, wherein the one or more aggregated gastric organoids are aggregated antral gastric organoids.

13. The method of claim 12, wherein culturing the one or more gut endoderm aggregates to form the one or more aggregated antral gastric organoids comprises contacting the one or more gut endoderm aggregates with EGF, retinoic acid, or one or more BMP signaling pathway inhibitors, or any combination thereof.

14. The method of any one of claims 1-6, wherein the gut endoderm monolayer is a hindgut endoderm monolayer and the gut spheroids are hindgut spheroids.

15. The method of claim 14, wherein differentiating the definitive endoderm to the hindgut endoderm monolayer and the hindgut spheroids comprises contacting the definitive endoderm with one or more FGF signaling pathway activators, or one or more Wnt signaling pathway activators, or both.

16. The method of any one of claims 14-15, wherein the one or more aggregated organoids are aggregated intestinal organoids.

17. The method of claim 16, wherein culturing the one or more gut endoderm aggregates to form the one or more aggregated intestinal organoids comprises contacting the one or more gut endoderm aggregates with EGF, one or more Wnt signaling pathway activators, or one or more BMP signaling pathway inhibitors, or any combination thereof.

18. The method of any one of claims 14-15, wherein the one or more aggregated organoids are aggregated colonic organoids.

19. The method of claim 18, wherein culturing the one or more gut endoderm aggregates to form the one or more aggregated colonic organoids comprises contacting the one or more gut endoderm aggregates with EGF, one or more Wnt signaling pathway activators, or one or more BMP signaling pathway activators, or any combination thereof.

20. The method of any one of the preceding claims, further comprising transplanting the one or more aggregated organoids to a recipient subject.

21. The one or more aggregated organoids produced by any one of claims 1-20.