CLAIMS

1. A method for production of a recombinant polypeptide of interest, comprising culturing host cells expressing the recombinant polypeptide of interest in an N-1 stage, non-perfusion-based culture system, wherein the host cells are cultured in an enriched medium to obtain an N-1 stage viable cell density of at least $5 \times 10^6$ viable cells per mL; and inoculating an N production culture system at high-seed density of at least $1.5 \times 10^6$ cells per mL with host cells from the N-1 stage, non-perfusion-based culture system, wherein the host cells are cultured in a basal media or an enriched basal media in the N production culture system, wherein the N-1 stage, non-perfusion-based culture system is a batch culture system, wherein the enriched medium comprises an increased amount of a carbon source relative to non-enriched medium, wherein the carbon source is glucose.

2. The method of claim 1, wherein the N-1 stage viable cell density is at least $10 \times 10^6$, at least $15 \times 10^6$, at least $20 \times 10^6$, at least $25 \times 10^6$, or at least $30 \times 10^6$ viable cells per mL.

3. The method of claim 2, wherein the cell viability on the last day of the N-1 stage is at least 80%, at least 85%, or at least 90%.

4. The method of any one of claims 1-3, wherein the medium is enriched by a feed medium at least 5% relative to non-enriched medium, at least 10% relative to non-enriched medium, at least 15% relative to non-enriched medium, or at least 20% relative to non-enriched medium.

5. The method of any one of claims 1-4, wherein the enriched medium further comprises an increased amount of nutrients, selected from amino acids, lipids, vitamins, minerals, and polyamines.

6. The method of any one of claims 1-5, wherein the host cell is a mammalian cell.

7. The method of claim 6, wherein the host cell is a CHO cell.

8. The method of any one of claims 1-7, wherein the N production culture system is a fed-batch bioreactor.

9. The method of any one of claims 1-8, wherein the titer of the polypeptide of interest is at least 100 mg/L, at least 1 g/L, at least 3 g/L, at least 5 g/L or at least 10 g/L.

10. The method of any one of claims 1-9, wherein the host cells are cultured in a basal medium or an enriched basal medium to obtain an N production stage viable cell density of at least $1.5 \times 10^6$, at least $5 \times 10^6$, or at least $10 \times 10^6$ viable cells per mL.

11. The method of any one of claims 1-10, further comprising the step of isolating the polypeptide of interest from the N production culture system.