What is claimed is:

1. A method for producing a recombinant protein product, the process comprising
   (a) providing a mammalian cell line engineered to have reduced or eliminated expression of endogenous asparagine synthetase (ASNS);
   (b) introducing into the mammalian cell line a polynucleotide, wherein the polynucleotide encodes a functional ASNS gene and the recombinant protein;
   (c) culturing the cell line; and
   (d) purifying the recombinant protein to form the recombinant protein product.
2. The method of claim 1, wherein the mammalian cell line of (a) further comprises reduced or eliminated expression of endogenous glutamine synthetase (GS).
3. The method of claim 1, wherein the endogenous ASNS expression is reduced or eliminated by inactivating the endogenous ASNS gene of the mammalian cell line.
4. The method of claim 1, wherein the endogenous ASNS gene is inactivated using a targeting endonuclease-mediated genome modification technique.
5. The method of claim 4, wherein the targeting endonuclease is a CRISPR ribonucleoprotein complex or a pair of zinc finger nucleases.
6. The method of claim 1, wherein the mammalian cell line is a Chinese hamster ovary (CHO) cell line, a baby hamster kidney (BHK) cell line, a NS0 mouse myeloma cell line, a HEK293 cell line, or a Vero African green monkey kidney cell line.
7. The method of claim 1, wherein the cell line is a CHO cell line.

8. The method of claim 1, wherein the recombinant protein product is chosen from an antibody, an antibody fragment, a vaccine, a growth factor, a cytokine, a hormone, or a clotting factor.

9. The method of claim 8, wherein the antibody is a bispecific or multispecific antibody.

10. A genetically engineered mammalian cell line for use in a biologic production system, wherein the mammalian cell line is engineered to have reduced or eliminated expression of endogenous ASNS.

11. The mammalian cell line of claim 10, wherein expression of ASNS is reduced or eliminated via inactivation of at least one allele of a chromosomal sequence encoding ASNS.

12. The mammalian cell line of claim 10, wherein the cell line is engineered to have reduced or eliminated expression of endogenous glutamine synthetase (GS).

13. The mammalian cell line of claim 11, wherein the chromosomal sequence is inactivated using a targeting endonuclease-mediated genome modification technique.

14. The mammalian cell line of claim 13 wherein the cell line is a CHO cell line.

15. The mammalian cell line of claim 10, further comprising at least one nucleic acid encoding a recombinant protein chosen from an antibody, an antibody fragment, a vaccine, a growth factor, a cytokine, a hormone, or a clotting factor.

16. The mammalian cell line of claim 15, wherein the antibody is a bispecific or multispecific antibody.

17. A polynucleotide comprising a nucleic acid sequence encoding a functional ASNS and at least one recombinant protein of interest.

18. A polynucleotide comprising

a) a nucleic acid sequence encoding a functional ASNS;

b) a nucleic acid sequence encoding a functional GS; and

c) a nucleic acid sequence encoding a recombinant protein of interest. The method of claim 1, wherein the functional ASNS gene comprises a heterologous promoter sequence.

19. The method of claim 1, wherein the functional ASNS gene comprises an endogenous promoter sequence.

20. The method of claim 19, wherein the endogenous promoter is the endogenous ASNS promoter.