What is claimed is:

1. A modified Chinese Hamster Ovary (CHO) cell prior to the modification, the CHO cell comprises two or more endogenous retrovirus (ERV) loci selected from:

(a) CHERV-1b (Genbank Accession No. MN527960, SEQ ID NO. 8);

(b) CHERV-2g (Genbank Accession No. MN527961, SEQ ID NO. 9);

(c) ETC109F (30021-39247 of SEQ ID NO. 10); and

(d) CHERV-3g (Genbank Accession No. MN527962, SEQ ID NO. 11);

where the modification comprises inactivation of two or more of the ERV loci of (a)-(d).

2. The modified CHO cell of claim 1, wherein inactivation of the ERV loci comprises a knock-out of the respective ERV GAG coding sequence.

3. The modified CHO cell of claim 2, wherein the knock-out of each respective ERV GAG coding sequence comprises introduction of an indel into the ERV GAG coding sequence.

4. The modified CHO cell of claim 2, wherein the knock-out of each respective ERV GAG coding sequence comprises introduction of a base edit into the ERV GAG coding sequence.

5. The modified CHO cell of claim 2, wherein the knock-out of each respective ERV GAG coding sequence comprises introduction of a deletion flanking the ERV GAG coding sequence.

6. The modified CHO cell of claim 1, wherein the inactivation of one or more of the ERV loci comprises deletion of at least one ERV locus.

7. The modified CHO cell of claim 6, wherein the inactivation of one or more of the ERV loci comprises deletion of each ERV locus.

8. The modified CHO cell of claim 6, wherein the inactivation of one or more of the ERV loci comprises deletion of an ERV locus and introduction of an indel or a base edit into the ERV GAG coding sequence of an ERV locus.

9. The modified CHO cell of any one of claims 1-8, wherein the modified cell expresses a recombinant product of interest.

10. The modified CHO cell of any one of claims 1-9, wherein the modified cell is generated from a recombinant cell that expresses a recombinant product of interest.

11. The modified CHO cell of claim 10, wherein the recombinant product of interest is encoded by an exogenous nucleic acid sequence integrated into the cellular genome of the CHO cell, at one or more targeted locations, or at random locations, or by using a transposase-mediated gene integration system.

12. The modified CHO cell of claim 10 or 11, wherein the recombinant product of interest is an antibody or an antigen-binding fragment thereof.

13. The modified CHO cell of claim 10 or 11, wherein the recombinant product of interest is a multispecific antibody, a chimeric antibody, a monoclonal antibody, a human antibody, a humanized antibody, or an antigen-binding fragment thereof.

14. A method for producing a modified CHO cell, comprising:

(a) contacting the cell with a nuclease-assisted gene targeting system and/or nucleic acid targeting at least two endogenous ERVs selected from

(i) CHERV-1b (Genbank Accession No. MN527960, SEQ ID NO. 8);

(ii) CHERV-2g (Genbank Accession No. MN527961, SEQ ID NO. 9);

(iii) ETC109F (30021-39247 of SEQ ID NO. 10); and

(iv) CHERV-3g (Genbank Accession No. MN527962, SEQ ID NO. 11);

(b) selecting the modified CHO cell wherein the expression of said ERVs has been reduced or eliminated as compared to an unmodified CHO cell.

15. The method of claim 14, wherein the reduction of ERV expression is mediated by RNA silencing.

16. The method according to claim 15, wherein RNA silencing is selected from the group consisting of siRNA gene targeting and knock-down, shRNA gene targeting and knock-down, and miRNA gene targeting and knock-down.

17. The method according to claim 14, wherein an exogenous nucleic acid encoding a recombinant product of interest is introduced into the CHO cell after the modification of claim 14.

18. The method of claim 17, wherein the exogenous nucleic acid encoding a recombinant product of interest is integrated into the cellular genome of the modified cells at one or more targeted locations, either randomly or in a targeted manner, or by using a transposase-mediated gene integration system.

19. The method of any one of claims 14-18, wherein the recombinant product of interest comprises a recombinant protein.

20. The method of claim 19, wherein the recombinant protein is an antibody or an antigen-binding fragment thereof.

21. The method of claim 20, wherein the antibody is a multispecific antibody, a chimeric antibody, a monoclonal antibody, a human antibody, a humanized antibody, or an antigen-binding fragment thereof.

22. The method according to claim 14, wherein the nuclease-assisted gene targeting system is selected from the group consisting of CRISPR/Cas9, CRISPR/Cpf1, zinc-finger nuclease, TALEN or meganuclease.

23. The method according to claim 14, wherein the modified CHO cell comprises gene knock-outs selected from: a) BAX; BAK; ICAM-1; GGTA1; CMAH; LPL; LPLA2; and PPT1; b) BAX; BAK; ICAM-1; SIRT-1; GGTA1; CMAH; LPL, LPLA2; and PPT1; c) BAX; BAK; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPL; LPLA2; and PPT1; d) BAX; BAK; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPL, LPLA2; PPT1; and LIPA; e) BAX; BAK; ICAM-1; GGTA1; CMAH; LPLA2; PPT1; and LIPA; f) BAX; BAK; ICAM-1; SIRT-1; GGTA1; CMAH; LPLA2; PPT1; and LIPA; g) BAX; BAK; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPLA2; PPT1; and LIPA; h) BAX; BAK; ICAM-1; LPL; LPLA2; and PPT1; i) BAX; BAK; ICAM-1; SIRT-1; LPL, LPLA2; and PPT1; j) BAX; BAK; ICAM-1; SIRT-1; MYC; LPL; LPLA2; and PPT1; k) BAX; BAK; ICAM-1; SIRT-1; MYC; LPL; LPLA2; PPT1; and LIPA; l) BAX; BAK; ICAM-1; SIRT-1; and MYC; m) BAX; BAK; ICAM-1; PERK; SIRT-1; and MYC; n) BAX; BAK; ICAM-1; SIRT-1; PERK; MYC; GGTA1; CMAH; LPL, LPLA2; PPT1; and LIPA; o) BAX; BAK; LPL; LPLA2; GGTA1; and CMAH; p) BAX; BAK; PERK; LPL; LPLA2; GGTA1; and CMAH; q) BAX; BAK; MYC; LPL; LPLA2; GGTA1; and CMAH; r) BAX; BAK; MYC; PERK; LPL; LPLA2; GGTA1; and CMAH; s) BAX; BAK; LPL; LPLA2; GGTA1; CMAH; and PPT1; t) BAX; BAK; PERK; LPL; LPLA2; GGTA1; CMAH; and PPT1; u) BAX; BAK; MYC; LPL; LPLA2; GGTA1; CMAH; and PPT1; v) BAX; BAK; MYC; PERK; LPL; LPLA2; GGTA1; CMAH; and PPT1; w) BAX; BAK; ICAM-1; and SIRT-1; x) BAX; BAK; and ICAM-1; y) BAX; BAK; BCKDHA; ICAM-1; GGTA1; CMAH; LPL; LPLA2; and PPT1; z) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; GGTA1; CMAH; LPL; LPLA2; and PPT1; aa) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPL; LPLA2; and PPT1; bb) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPL, LPLA2; PPT1; and LIPA; cc) BAX; BAK; BCKDHA; ICAM-1; GGTA1; CMAH; LPLA2; PPT1; and LIPA; dd) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; GGTA1; CMAH; LPLA2; PPT1; and LIPA; ee) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPLA2; PPT1; and LIPA; ff) BAX; BAK; BCKDHA; ICAM-1; LPL; LPLA2; and PPT1; gg) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; LPL, LPLA2; and PPT1; hh) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; MYC; LPL; LPLA2; and PPT1; ii) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; MYC; LPL; LPLA2; PPT1; and LIPA; jj) BAX; BAK; BCKDHA; ICAM-1; SIRT-1; and MYC; kk) BAX; BAK; BCKDHA; ICAM-1; PERK; SIRT-1; and

MYC; ll) BAX; BAK; BCKDHA; ICAM-1; PERK; SIRT-1; MYC; GGTA1; CMAH; LPL, LPLA2; PPT1; and LIPA; mm) BAX; BAK; BCKDHA; LPL; LPLA2; GGTA1; and CMAH; nn) BAX; BAK; BCKDHA; PERK; LPL; LPLA2; GGTA1; and CMAH; oo) BAX; BAK; BCKDHA; MYC; LPL; LPLA2; GGTA1; and CMAH; pp) BAX; BAK; BCKDHA; MYC; PERK; LPL; LPLA2; GGTA1; and CMAH; qq) BAX; BAK; BCKDHA; LPL; LPLA2; GGTA1; CMAH; and PPT1; rr) BAX; BAK; BCKDHA; PERK; LPL; LPLA2; GGTA1; CMAH; and PPT1; ss) BAX; BAK; BCKDHA; MYC; LPL; LPLA2; GGTA1; CMAH; and PPT1; tt) BAX; BAK; BCKDHA; MYC; PERK; LPL; LPLA2; GGTA1; CMAH; and PPT1; uu) BAX; BAK; BCKDHA; ICAM-1; and SIRT-1; vv) BAX; BAK; BCKDHA; and ICAM-1; ww) BAX; BAK; BCKDHB; ICAM-1; GGTA1; CMAH; LPL; LPLA2; and PPT1; xx) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; GGTA1; CMAH; LPL; LPLA2; and PPT1; yy) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPL; LPLA2; and PPT1; zz) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPL, LPLA2; PPT1; and LIPA; aaa) BAX; BAK; BCKDHB; ICAM-1; GGTA1; CMAH; LPLA2; PPT1; and LIPA; bbb) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; GGTA1; CMAH; LPLA2; PPT1; and LIPA; ccc) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPLA2; PPT1; and LIPA; ddd) BAX; BAK; BCKDHB; ICAM-1; LPL; LPLA2; and PPT1; eee) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; LPL, LPLA2; and PPT1; fff) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; MYC; LPL; LPLA2; and PPT1; ggg) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; MYC; LPL; LPLA2; PPT1; and LIPA; hhh) BAX; BAK; BCKDHB; ICAM-1; SIRT-1; and MYC; iii) BAX; BAK; BCKDHB; ICAM-1; PERK; SIRT-1; and MYC; jjj) BAX; BAK; BCKDHB; ICAM-1; PERK; SIRT-1; MYC; GGTA1; CMAH; LPL, LPLA2; PPT1; and LIPA; kkk) BAX; BAK; BCKDHB; LPL; LPLA2; GGTA1; and CMAH; lll) BAX; BAK; BCKDHB; PERK; LPL; LPLA2; GGTA1; and CMAH; mmm) BAX; BAK; BCKDHB; MYC; LPL; LPLA2; GGTA1; and CMAH; nnn) BAX; BAK; BCKDHB; MYC; PERK; LPL; LPLA2; GGTA1; and CMAH; ooo) BAX; BAK; BCKDHB; LPL; LPLA2; GGTA1; CMAH; and PPT1; ppp) BAX; BAK; BCKDHB; PERK; LPL; LPLA2; GGTA1; CMAH; and PPT1; qqq) BAX; BAK; BCKDHB; MYC; LPL; LPLA2; GGTA1; CMAH; and PPT1; rrr) BAX; BAK; BCKDHB; MYC; PERK; LPL; LPLA2; GGTA1; CMAH; and PPT1; sss) BAX; BAK; BCKDHB; ICAM-1; and SIRT-1; ttt) BAX; BAK; BCKDHB; and ICAM-1; uuu) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; GGTA1; CMAH; LPL; LPLA2; and PPT1; vvv) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; GGTA1; CMAH; LPL; LPLA2; and PPT1; www) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; MYC; GGTA1; CMAH;

LPL; LPLA2; and PPT1; xxx) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPL, LPLA2; PPT1; and LIPA; yyy) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; GGTA1; CMAH; LPLA2; PPT1; and LIPA; zzz) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; GGTA1; CMAH; LPLA2; PPT1; and LIPA; aaaa) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; MYC; GGTA1; CMAH; LPLA2; PPT1; and LIPA; bbbb) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; LPL; LPLA2; and PPT1; cccc) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; LPL, LPLA2; and PPT1; dddd) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; MYC; LPL; LPLA2; and PPT1; eeee) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; MYC; LPL; LPLA2; PPT1; and LIPA; ffff) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; SIRT-1; and MYC; gggg) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; PERK; SIRT-1; and MYC; hhhh) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; PERK; SIRT-1; MYC; GGTA1; CMAH; LPL, LPLA2; PPT1; and LIPA; iiii) BAX; BAK; BCKDHA; BCKDHB; LPL; LPLA2; GGTA1; and CMAH; jjjj) BAX; BAK; BCKDHA; BCKDHB; PERK; LPL; LPLA2; GGTA1; and CMAH; kkkk) BAX; BAK; BCKDHA; BCKDHB; MYC; LPL; LPLA2; GGTA1; and CMAH; llll) BAX; BAK; BCKDHA; BCKDHB; MYC; PERK; LPL; LPLA2; GGTA1; and CMAH; mmmm) BAX; BAK; BCKDHA; BCKDHB; LPL; LPLA2; GGTA1; CMAH; and PPT1; nnnn) BAX; BAK; BCKDHA; BCKDHB; PERK; LPL; LPLA2; GGTA1; CMAH; and PPT1; oooo) BAX; BAK; BCKDHA; BCKDHB; MYC; LPL; LPLA2; GGTA1; CMAH; and PPT1; pppp) BAX; BAK; BCKDHA; BCKDHB; MYC; PERK; LPL; LPLA2; GGTA1; CMAH; and PPT1; qqqq) BAX; BAK; BCKDHA; BCKDHB; ICAM-1; and SIRT-1; or rrrr) BAX; BAK; BCKDHA; BCKDHB; and ICAM-1

24. A method for producing recombinant product of interest, comprising:

(a) culturing a CHO cell of any one of claims 1-13 under conditions resulting in the expression of the recombinant product of interest, and

(b) recovering the recombinant product of interest from the cultivation medium or the modified CHO cells.

25. The method of claim 24, wherein the exogenous nucleic acid encoding a recombinant product of interest is integrated into the cellular genome of the CHO cell, at one or more targeted location, or at a random location.

26. The method of claim 24 or 25, wherein the recombinant product of interest comprises a recombinant protein.

27. The method of claim 26, wherein the recombinant protein is an antibody or an antigen-binding fragment thereof.

28. The method of claim 27, wherein the antibody is a multispecific antibody, a chimeric antibody, a monoclonal antibody, a human antibody, a humanized antibody, or an antigen-binding fragment thereof.

29. The method of any one of claims 20-21, 27-28, or the modified cells of any one of claims 12-13, wherein the antibody is selected from: bevacizumab; trastuzumab; ranibizumab; efalizumab; rituximab, omalizumab, an anti-amyloid beta (Abeta) antibody; an anti-CD4 (MTRX1011A) antibody; an anti-EGFL7 (EGF-like-domain 7) antibody; an anti-IL13 antibody; an anti-Apomab antibody; an anti-DR5-targeted pro-apoptotic receptor agonist (PARA) antibody; an anti-BR3 antibody; an anti-CD268 antibody; an anti-BLyS receptor 3 antibody; an anti-BAFF-R (BAFF Receptor) antibody; an anti-beta 7 integrin subunit antibody; an anti-$\alpha_v\beta_8$ integrin antibody; dacetuzumab (Anti-CD40); GA101 (anti-CD20 monoclonal antibody); MetMAb (anti-MET receptor tyrosine kinase antibody); an anti-neuropilin-1 (NRP1) antibody; ocrelizumab (anti-CD20 antibody); an anti-OX40 ligand antibody; an anti-oxidized LDL (oxLDL) antibody; pertuzumab (HER dimerization inhibitors (HDIs)); an anti-PD-L1 antibody; an anti-CD79b antibody; an anti-CD20 X anti-CD3 bispecific antibody; an anti- VEGF-A X anti-angiopoietin-2 bispecific antibody; and rhuMAb IFN alpha.

30. The method of any of claims 14-29, comprising purifying the recombinant product of interest or the antibody.