CLAIMS

1. A genetically modified mammalian cell line which is resistant to infection by minute virus of mouse (MVM), as compared to an unmodified parental cell line, wherein the genetically modified mammalian cell line, comprises a modified chromosomal sequence comprising an inactivated chromosomal sequence encoding St3 beta-galactoside alpha-2,3-sialyltransferase 4 (St3Gal4).

2. The genetically modified mammalian cell line of claim 1, further comprising an inactivated chromosomal sequence encoding mannosyl (alpha-1,3-)-glycoprotein beta-1,2-N-acetylglucosaminyltransferase 1 (Mgat1).

3. The genetically modified mammalian cell line of claim 1, wherein the modified chromosomal sequence is modified using a targeting endonuclease-mediated genome modification technique.

4. The genetically modified mammalian cell line of claim 3, wherein the targeting endonuclease is a zinc finger nuclease.

5. The genetically modified mammalian cell line of claim 1, 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.

6. The genetically modified mammalian cell line of claim 1, wherein the cell line is a non-human cell line.

7. The genetically modified mammalian cell line of claim 1, wherein the cell line is a Chinese hamster ovary (CHO) cell line.

8. The genetically modified mammalian cell line of claim 1, further comprising at least one inactivated chromosomal sequence encoding glutamine synthetase.

9. The genetically modified mammalian cell line of claim 1, for use in a biologic production system.

10. A method for reducing the risk of viral contamination of a biologic production system, the method comprising providing for use in the biologic production system the genetically modified mammalian cell line of claim 1.

11. A method for reducing or preventing viral contamination of a recombinant protein product, the method comprising: a) obtaining the genetically modified mammalian cell line of claim 1; and b) expressing the recombinant protein product in the genetically modified mammalian cell line.