Claims

1. A cell line that is genetically modified to reduce the expression of:
   (i) GnTIVa or GnTIVb, and
   (ii) GnTV.

2. The cell line according to claim 1, wherein the expression of all of GnTIVa/b and GnTV is reduced.

3. The cell line according to claim 1 or claim 2, wherein the expression of GnTIVa/b and/or GnTV is completely abolished.

4. The cell line according to any one of claims 1 to 3, wherein the cell line is further genetically modified to overexpress β-galactoside α-2,6-sialyltransferase 1 (ST6Gal1) and/or α-2,3-sialyltransferase 4 (ST3Gal4).

5. The cell line according to any one of claims 1 to 4, wherein the cell line is an insect cell line, an avian cell line, or a mammalian cell line, preferably a human cell line.

6. The cell line according to any one of claims 1 to 5, wherein the cell line is derived from a cell line, selected from the group consisting of Muscovy Duck cells (AGE.CR®), African green monkey kidney epithelial cells (Vero), Madin Darby canine kidney cells (MDCK), baby hamster kidney cells (BHK), Chinese hamster ovary (CHO) cells, human hepatocarcinoma cell lines (HepG2, Huh7), human embryonic kidney 293 (HEK293) cells, human neuronal precursor cells (AGE1.HN®, NC5T11), human *embryonic* retinoblast cells (Per.C6), myeloma cell lines (HMCLs, MM.1, U266, RPMI8226), CML tumor cell lines (NM, NM-F9), hybrid HEK293 and lymphoma cell (HKB11), and human amniocytes-derived CAP cells.

7. The cell line according to any one of claims 1 to 5, wherein the cell line is derived from human primary amniocytes comprising at least one nucleic acid encoding the gene products of the adenoviral E1 and pIX regions.

8. A recombinant glycoprotein having N-glycans with a 1.2-fold increase in the proportion of di-antennary N-glycans when compared to the same recombinant glycoprotein expressed in a cell line with non-reduced expression of GnTIVa/b and/or GnTV.

9. The recombinant glycoprotein according to claim 8, wherein the proportion of tetra-antennary N-glycans is reduced by at least 80% when compared to the same recombinant glycoprotein expressed in a cell line with non-reduced expression of GnTIVa/b and/or GnTV.

10. The recombinant glycoprotein according to claim 8 or claim 9, wherein at least 80% of the antennae of the N-glycans are terminated by 2,6-linked sialic acid.

11. The recombinant glycoprotein according to any one of claims 8 to 10, wherein the glycoprotein is selected from the group consisting of α1-antitrypsin (AAT), hepatocyte growth factor (HGF), Factor VII (FVII), Factor VIII (FVIII), Factor IX (FIX), von-Willebrand-Factor (vWF), and C1 esterase inhibitor (C1-inhibitor; C1 Inh).

12. The recombinant glycoprotein according to any one of claims 8 to 11, wherein the glycoprotein is a mammalian, preferably a human glycoprotein.

13. The recombinant glycoprotein according to any one of claims 8 to 12, wherein the glycoprotein has been expressed in a cell line according to any one of claims 1 to 7.

14. A method for the expression of a recombinant glycoprotein of interest in a cell, said glycoprotein having N-glycans with a significantly increased proportion of

di-antennary N-glycans when compared to the same recombinant glycoprotein expressed in a cell line with non-reduced expression of GnTIVa/b and/or GnTV, comprising the steps of:

(a) providing a cell line according to any one of claim 1 to 7;

(b) expressing the glycoprotein of interest in said cell line; and

(c) isolating the glycoprotein from the cell or the cell culture supernatant.

15. The method according to claim 14, wherein the recombinant glycoprotein is a recombinant glycoprotein according to any one of claims 8 to 13.