THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. An isolated vertebrate cell suitable for recombinant expression of a polypeptide of interest, wherein the vertebrate cell is altered to impair the effect of matriptase, wherein the effect of matriptase is impaired because functional expression of the matriptase gene is reduced or eliminated in said cell by gene knock-out, gene mutation, gene deletion, gene silencing or a combination of any of the foregoing, and wherein the vertebrate cell comprises at least one heterologous polynucleotide encoding a polypeptide of interest, wherein the vertebrate cell secretes the polypeptide of interest.

2. The isolated vertebrate cell according to claim 1, wherein the genome of the vertebrate cell is altered to impair the function of the endogenous protease matriptase, and/or wherein at least one or all copies of the matriptase gene are deleted or functionally inactivated.

3. The isolated vertebrate cell according to claim 2, having one or more of the following features

a) the vertebrate cell comprises one or more mutations in at least one copy or all copies of the matriptase gene to provide a non- or less-functional expression product; and/or
b) the vertebrate cell comprises one or more mutations in the promoter, in the 5'UTR, the 3'UTR and/or other regulatory elements of the matriptase gene.

4. The isolated vertebrate cell according to claim 3, wherein said one or more mutations are comprised in a coding region of the matriptase gene and result in a non- or less functional expression product, wherein optionally the one or more mutations are comprised in a polynucleotide sequence of the matriptase gene that encodes exon 2 of matriptase or wherein the one or more mutations are comprised in a polynucleotide sequence of the matriptase gene that encodes at least part of the catalytic domain of matriptase whereby a non- or less functional expression product is obtained.

5. The isolated vertebrate cell according to one or more of claims 1 to 4, wherein the unaltered endogenous matriptase shares at least 70 %, at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98% or at least 99% identity to one or more of the amino acid sequences shown in SEQ ID NO: 1 to 5 as matriptase reference protein and has the same proteolytic activity as said matriptase reference protein.

6. The isolated vertebrate cell according to one or more of claims 1 to 5, wherein the vertebrate cell has one or more of the following characteristics:

a) the vertebrate cell is a mammalian cell;
b) the vertebrate cell is a human cell;
c) the vertebrate cell is a rodent cell;

d) the vertebrate cell is a hamster cell;
e) the vertebrate cell is a CHO cell; and/or
f) the vertebrate cell is a mammalian cell provided as cell clone or cell line.

7. The isolated vertebrate cell according to claim 1, wherein the vertebrate cell is a CHO cell which comprises one or more frame-shift mutations in exon 2 of one or both alleles of the matriptase gene.

8. The isolated vertebrate cell according to one or more of claims 1 to 7, wherein the polypeptide of interest has one or more of the following characteristics:
a) it is a therapeutically active or diagnostic polypeptide;
b) it is susceptible to clipping by proteases;
c) it comprises at least one clipping site for matriptase;
d) it is a glycopolypeptide; and/or
e) it is selected from the group consisting of glycoproteins, antibodies, non-IgG proteins, Fc-fusion proteins, Fab fragments, protein complexes, peptidases, signal peptides, nanobodies, growth factors, hormones, cytokines, blood factors and enzymes.

9. The isolated vertebrate cell according to one or more of claims 1 to 8, wherein the at least one heterologous polynucleotide encoding the polypeptide of interest is integrated into the genome of said cell and wherein optionally, at least one heterologous polynucleotide encoding a selectable marker or reporter polypeptide is additionally integrated into the genome of said cell.

10. A method for producing a vertebrate cell according to one or more of claims 1 to 9, comprising altering a vertebrate cell to impair the effect of matriptase by reducing or eliminating functional expression of the matriptase gene in said cell by gene knock-out, gene mutation, gene deletion, gene silencing or a combination of any of the foregoing, and introducing a polynucleotide encoding a polypeptide of interest, wherein said polypeptide of interest is secreted by the vertebrate cell.

11. A method for recombinantly producing a polypeptide of interest, comprising
(a) culturing vertebrate host cells according to one or more of claims 1 to 9 under conditions that allow for the expression and secretion of the polypeptide of interest into the cell culture medium;
(b) isolating the polypeptide of interest from the cell culture medium; and
(c) optionally processing the isolated polypeptide of interest.

12. A method for selecting a host cell which recombinantly expresses a polypeptide of interest, comprising

(a) providing vertebrate cells according to one or more of claims 1 to 9 as host cells; and
(b) selecting one or more host cells expressing the polypeptide of interest;

wherein optionally stage (a) comprises transfecting vertebrate cells in which the function of the endogenous protease matriptase is impaired with at least one polynucleotide encoding a polypeptide of interest to provide vertebrate host cells according to one or more of claims 1 to 9.

13. The method according to claim 12, having one or more of the following characteristics
a) the vertebrate cells are mammalian cells;
b) said host cells provided in stage (a) additionally comprise at least one heterologous polynucleotide encoding a selectable marker and stage (b) comprises culturing said plurality of host cells under conditions selective for the selectable marker;
c) polynucleotides are introduced into the vertebrate cells by transfecting one or more expression vectors;
d) stage (b) comprises one or multiple selection steps; and/or
e) stage (b) comprises performing a flow cytometry based selection.

14. Method for selecting a vertebrate cell for recombinant production of a polypeptide of interest, comprising analyzing if the endogenous protease matriptase is functionally expressed in the vertebrate cell and selecting a vertebrate cell in which the effect of such endogenous matriptase is impaired by reduction or elimination of functional expression of the matriptase gene by gene knock-out, gene mutation, gene deletion, gene silencing or a combination of any of the foregoing for recombinant production of the polypeptide of interest.

15. Use of a vertebrate cell for recombinant production of a polypeptide of interest that is secreted from the vertebrate cell, wherein the used cell is altered to impair the effect of the endogenous protease matriptase, wherein the effect of matriptase is impaired because functional expression of the matriptase gene is reduced or eliminated in said cell by gene knock-out, gene mutation, gene deletion, gene silencing or a combination of any of the foregoing, wherein optionally, the vertebrate cell has one or more characteristics as defined in one or more of claims 2 to 9.