Patent Claims

1. A method for producing a polypeptide comprising the following steps

   a) cultivating a mammalian cell comprising a first nucleic acid encoding a carbonic anhydrase and a second nucleic acid encoding the polypeptide, and

   b) recovering the polypeptide from the cell or the cultivation medium and thereby producing the polypeptide,

   whereby the first nucleic acid and the second nucleic acid are expressed.

2. The method according to claim 1, characterized in that the cultivating is for a first period of time with a first constant pCO_2 value, and thereafter for a second period of time with an increasing pCO_2 value from the first constant pCO_2 value to a second pCO_2 value.

3. The method according to claim 2, characterized in that the cultivating is further for a third period of time after the second period of time with the second pCO_2 value.

4. The method according to any one of claims 2 to 3, characterized in that the first constant pCO_2 value is of from about 4 % to about 9 %.

5. The method according to claim 4, characterized in that the first constant pCO_2 value is about 5 %.

6. The method according to any one of claims 2 to 5, characterized in that the second pCO_2 value is of from about 15 % to about 30 %.

7. The method according to claim 6, characterized in that the second pCO_2 value is about 25 %.

8. The method according to any one of the preceding claims, characterized in that the carbonic anhydrase is a carbonic anhydrase II or a carbonic anhydrase V.

9. The method according to claim 8, characterized in that the carbonic anhydrase is human carbonic anhydrase II or human carbonic anhydrase V.

10. The method according to claim 9, characterized in that the carbonic anhydrase has the amino acid sequence of SEQ ID NO: 03.

11. The method according to any one of the preceding claims, characterized in that the polypeptide is an antibody, or an antibody conjugate, or an antibody fragment, or an Fc-region fusion polypeptide.

12. The method according to any one of the preceding claims, characterized in that the mammalian cell is a CHO cell.

13. The method according to claim 12, characterized in that the CHO cell is a CHO K1 cell.

14. A CHO cell comprising a first nucleic acid encoding human carbonic anhydrase II or a S2A variant thereof and a second nucleic acid encoding an antibody, or an antibody conjugate, or an antibody fragment, or an Fc-region fusion polypeptide.