CLAIMS

1. A cell culture medium for controlling [alpha]-amidation and C-terminal cleavage of amino acid residue of at least one expressed polypeptide in a cell culture, wherein the medium comprises selenium ions or a salt thereof or a compound comprising selenium ions in a concentration ranging from 1 μM to 2.98 μM, and zinc ions or a salt thereof or a compound comprising zinc ions in a concentration ranging from 3 μM to 20 μM.

2. The cell culture medium of claim 1, further comprising copper ions or a salt thereof or a compound comprising copper ions in a concentration ranging from 0.02 μM to 1 μM.

3. The cell culture medium of claim 2, wherein the concentration of copper ions or the salt thereof, or of the compound comprising copper ions is in the range from 0.1 μM to 0.8 μM.

4. The cell culture medium of any one of claims 1 to 3, wherein the cell culture medium comprises:
   i) selenium in a concentration ranging from 1 μM to 2.4 μM; and
   ii) zinc in a concentration ranging from above 3 μM to 15 μM.

5. A cell culture process for controlling [alpha]-amidation and/or C-terminal cleavage of amino acid residue of at least one expressed polypeptide, the process comprising:
   i) adding to the culture medium, which comprises a host cell producing the polypeptide, selenium ions or a salt thereof or a compound comprising selenium ions in a concentration ranging from 1 μM to 2.98 μM, and zinc ions or a salt thereof or a compound comprising zinc ions in a concentration ranging from 3 μM to 20 μM; and
   ii) fermenting and recovering the polypeptide.

6. The cell culture process of claim 5, further comprising adding to the culture medium copper ions or a salt thereof or a compound comprising copper ions in a concentration ranging from 0.02 μM to 1 μM.

7. The cell culture process of claim 6, wherein the concentration of copper ions or the salt thereof or of the compound comprising copper ions is in the range from 0.1 μM to 0.8 μM.

8. The cell culture process of any one of claims 5 to 7, wherein the adding to the culture medium decreases the amount of C-terminal [alpha]-amidated proline and/or increases the amount of C-terminal lysine.

9. The cell culture process of any one of claims 5 to 8, wherein selenium is used for inhibiting [alpha]-amidation, and wherein zinc is used for activating C-terminal cleavage of amino acid residue and/or for activating [alpha]-amidation.

10. The cell culture process of any one of claims 5 to 9, wherein the medium comprises:
    i) selenium in a concentration ranging from 1 µM to 2.4 µM; and
    ii) zinc in a concentration ranging from above 3 µM to 15 µM.

11. The cell culture process of any one of claims 5 to 10, wherein the amount of
    i) C-terminal alpha-amidated Proline of the expressed polypeptides is decreased compared to the use of standard media containing 2.04 µM copper and 0.173 µM selenium; and/or
    ii) C-terminal lysine of the expressed polypeptides is increased compared to the use of standard media containing 22 µM zinc.

12. The cell culture process of any one of claims 5 to 11, wherein said expressed polypeptide is
    i) a heterologously expressed polypeptide; and/or
    ii) selected from the group consisting of:
        a) an antibody, or a fragment or derivative thereof
        b) a fusion protein, and/or
        c) non-antibody proteins.

13. The cell culture process of claim 12, wherein the heterologous expression takes place in a eukaryotic cell-based expression system.

14. The cell culture process of claim 12, wherein the eukaryotic cell-based expression system comprises a eukaryotic cell selected from the group consisting of: insect cell, plant cell, algae cell, fungus cell, mammalian cell and animal cell.

15. The cell culture process of any one of claims 14, wherein said eukaryotic cell-based expression system is a mammalian expression system, being at least one mammalian cell line selected from the group consisting of:
    - Baby hamster Kidney cell lines
    - Chinese hamster ovary cell lines
    - Murine myeloma cell lines

- Mouse myeloma cell lines
- Human embryonic kidney cell lines
- Human-retina-derived cell lines, or
- Amniocyte cell lines.

16. The cell culture process of claim 15, wherein said Baby hamster Kidney cell line is BHK21, said Chinese hamster ovary cell line is CHO-K1, CHO-DG44, CHO-DXB, or CHO-dhfr$^-$, said Murine myeloma cell line is SP2/0, said Mouse myeloma cell line is NS0, said Human-retina-derived cell line is PER-C6, and/or said Amniocyte cell line is CAP.

17. The *ex vivo* and/or *in vitro* use of selenium or a salt thereof as an inhibitor for peptidylglycine [alpha]-amidating monooxygenase (PAM) enzyme.

18. The *ex vivo* and/or *in vitro* use of claim 17, wherein selenium or the salt thereof is used in a cell culture medium in the presence of zinc ions.